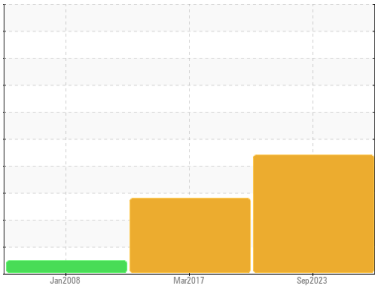
PROBLEM SUMMARY

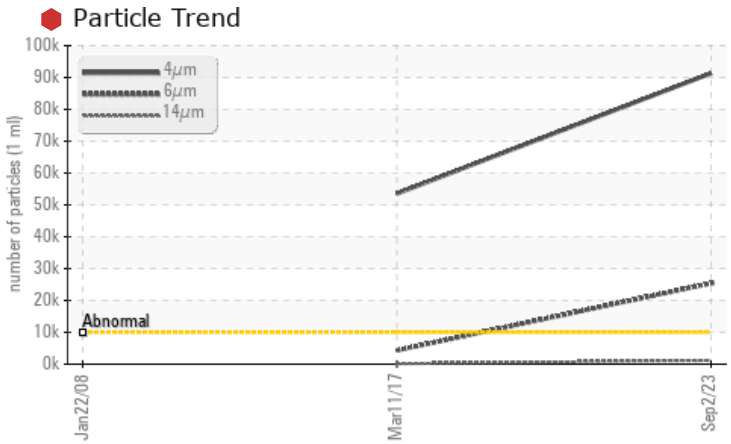
Sample Rating Trend



ISO

Area
1420
Machine Id
1420-7311-4201 - MOTOR Sag mill1420-5512-4001 NDE
Component
Non-Drive End Journal Bearing
Fluid
PETRO CANADA TURBOFLO R&O 100 (10 LTR)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	ABNORMAL	NORMAL
Particles >4µm		ASTM D7647	>10000	**91355**	53547	---
Particles >6µm		ASTM D7647	>2500	**25367**	4280	---
Particles >14µm		ASTM D7647	>160	**1156**	123	---
Particles >21µm		ASTM D7647	>40	**215**	21	---
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**24/22/17**	23/19/14	---

Customer Id: INCVOS
Sample No.: PC0070129
Lab Number: 02582827
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 advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	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.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS

OFF SPEC

11 Mar 2017 Diag: Bill Quesnel

We recommend you service the filters on this component. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was specified as PETRO CANADA TURBOFLO R&O 100, however, a fluid match indicates that this fluid is ISO 68 R&O Hydraulic Oil. Please confirm the oil type and grade on your next sample.All component wear rates are normal. Particles >4µm are abnormally high. Oil Cleanliness is abnormal. Particles >6µm are notably high. Viscosity of sample indicates oil is within ISO 68 range, advise investigate. This plus the additive levels indicates that this is not the same brand, or type of oil as reported. 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

NORMAL

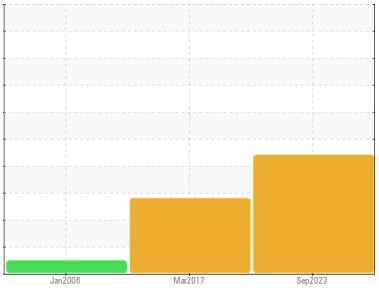
22 Jan 2008 Diag:

We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Equipment filter micron rating specified is not adequate to achieve target cleanliness code. We recommend contacting the equipment manufacturer to verify filter rating and cleanliness specifications.All component wear rates are normal. The direct-reading & analytical ferrographic results are normal indicating no abnormal wear in the system. There is a high amount of particulates (5 to 100 microns in size) present in the oil. The condition of oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
1420
Machine Id
1420-7311-4201 - MOTOR Sag mill1420-5512-4001 NDE
Component
Non-Drive End Journal Bearing
Fluid
PETRO CANADA TURBOFLO R&O 100 (10 LTR)

DIAGNOSIS

Recommendation

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.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates (2 to 100 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		**PC0070129**	PC383236	PC296994
Sample Date		Client Info		**02 Sep 2023**	11 Mar 2017	22 Jan 2008
Machine Age	yrs	Client Info		**0**	0	3
Oil Age	yrs	Client Info		**0**	0	1
Oil Changed		Client Info		**N/A**	N/A	Not Changd
Sample Status				**SEVERE**	ABNORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	8	6
Iron	ppm	ASTM D5185(m)	>60	**4**	1	8
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>4	**<1**	0	0
Lead	ppm	ASTM D5185(m)	>250	**0**	<1	<1
Copper	ppm	ASTM D5185(m)	>125	**<1**	1	2
Tin	ppm	ASTM D5185(m)	>80	**3**	4	10
Antimony	ppm	ASTM D5185(m)		**0**	0	---
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	---
Cadmium	ppm	ASTM D5185(m)		**0**	0	---

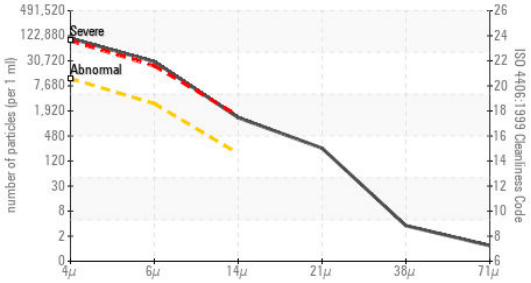
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**0**	0	0
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**<1**	0	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	0	1
Phosphorus	ppm	ASTM D5185(m)	4	**4**	▲ 38	6
Zinc	ppm	ASTM D5185(m)	0	**2**	3	1
Sulfur	ppm	ASTM D5185(m)		**40**	▲ 798	95
Lithium	ppm	ASTM D5185(m)		**<1**	<1	---

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

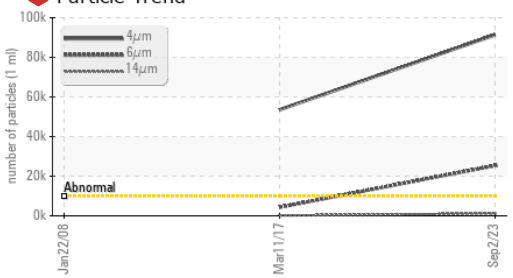
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	● **91355**	▲ 53547	---
Particles >6µm		ASTM D7647	>2500	● **25367**	▲ 4280	---
Particles >14µm		ASTM D7647	>160	▲ **1156**	123	---
Particles >21µm		ASTM D7647	>40	▲ **215**	21	---
Particles >38µm		ASTM D7647	>10	**3**	1	---
Particles >71µm		ASTM D7647	>3	**1**	0	---
Oil Cleanliness		ISO 4406 (c)	>20/18/14	● **24/22/17**	▲ 23/19/14	---

OIL ANALYSIS REPORT

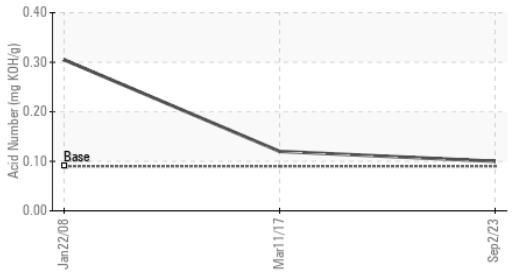
Particle Count



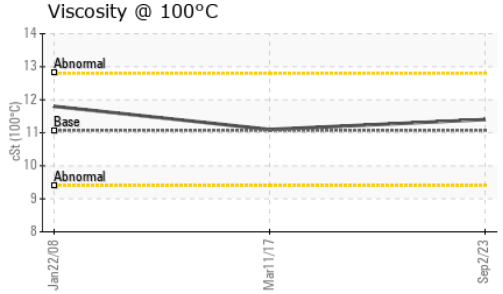
Particle Trend



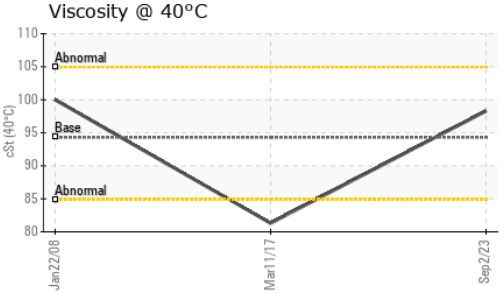
Acid Number



Viscosity @ 100°C



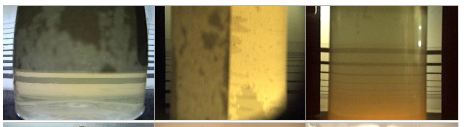
Viscosity @ 40°C



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.09	**0.10**	0.12	0.305

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	**VLITE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	VLITE
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	**98.3**	▲ 81.3	100
Visc @ 100°C	cSt	ASTM D7279(m)	11.07	**11.4**	11.1	11.8
Viscosity Index (VI)	Scale	ASTM D2270*	103	**102**	▲ 124	107

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. : PC0070129 **Received** : 15 Sep 2023
Lab Number : 02582827 **Diagnosed** : 18 Sep 2023
Unique Number : 5643892 **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.

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