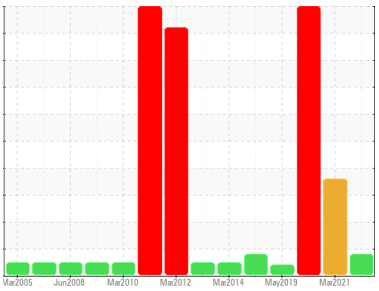
PROBLEM SUMMARY

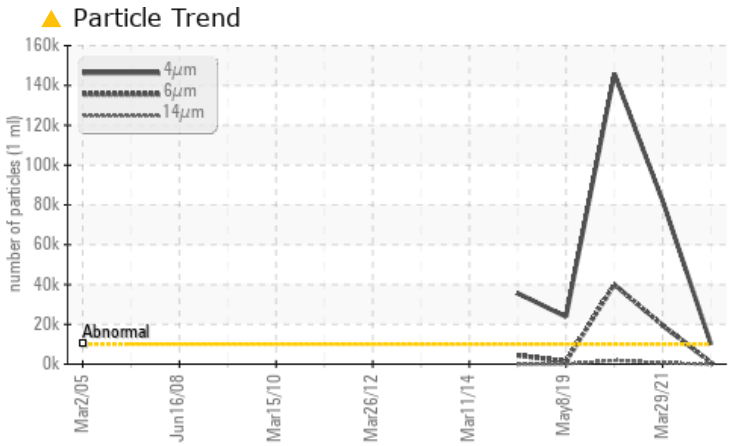
Sample Rating Trend



ISO

Area
MANITOU FALLS GS
Machine Id
FP2G3
Component
Turbine Bearing
Fluid
ESSO TERESSO ISO 46 (--- GAL)

COMPONENT CONDITION SUMMARY



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

				ATTENTION	SEVERE	SEVERE
Sample Status						
Particles >4µm		ASTM D7647	>10000	**10001**	81966	145864
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**21/17/11**	24/21/17	24/22/18

Customer Id: ONTKEE
Sample No.: WC0806467
Lab Number: 02558995
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.
Information Required	---	---	?	NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

HISTORICAL DIAGNOSIS

DIRT

29 Mar 2021 Diag: Kevin Marson

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. 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. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) R&O OIL ISO 46. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >4µm are severely high. Silicon ppm levels are abnormally high. Particles >6µm are abnormally high. Particles >14µm are abnormally high. Particles >21µm are abnormally high. Elemental level of silicon (Si) above normal indicating ingress of seal material. 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

ISO

08 Jul 2020 Diag: Kevin Marson

Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. 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. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.All component wear rates are normal. Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Particles >4µm are severely high. Water contamination levels are abnormally high. Water contamination levels are abnormally high.. Water contamination levels are abnormally high... ppm Water contamination levels are abnormally high. There is a moderate concentration of water present in the oil. Free water present. Moderate concentration of visible dirt/debris present in the oil. 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

ISO

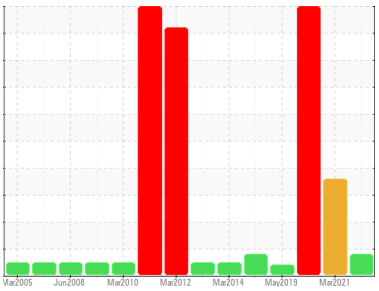
08 May 2019 Diag: Wes Davis

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.All component wear rates are normal. Particles >4µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report

OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
MANITOU FALLS GS
Machine Id
FP2G3
Component
Turbine Bearing
Fluid
ESSO TERESSO ISO 46 (--- GAL)

DIAGNOSIS

Recommendation
We recommend you service the filters on this component. Resample at the next service interval to monitor. 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 light amount of silt (particulates < 14 microns in size) present in the oil.

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		**WC0806467**	WC0560632	WC0481713
Sample Date		Client Info		**09 May 2023**	29 Mar 2021	08 Jul 2020
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ATTENTION**	SEVERE	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>2	**NEG**	NEG	NEG

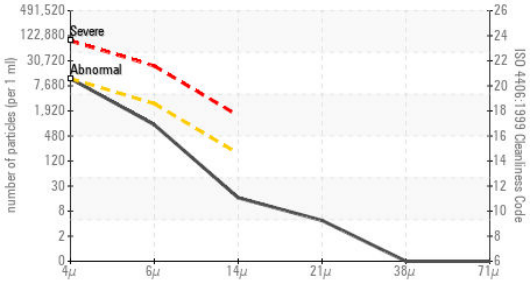
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	---	---
Iron	ppm	ASTM D5185(m)	>20	**<1**	6	4
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Lead	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>20	**<1**	<1	0
Tin	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Antimony	ppm	ASTM D5185(m)		**<1**	0	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	**0**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	<1	0
Magnesium	ppm	ASTM D5185(m)	0	**0**	0	<1
Calcium	ppm	ASTM D5185(m)	0	**0**	1	<1
Phosphorus	ppm	ASTM D5185(m)	2.4	**2**	3	3
Zinc	ppm	ASTM D5185(m)	0	**2**	2	4
Sulfur	ppm	ASTM D5185(m)		**667**	1683	1667
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

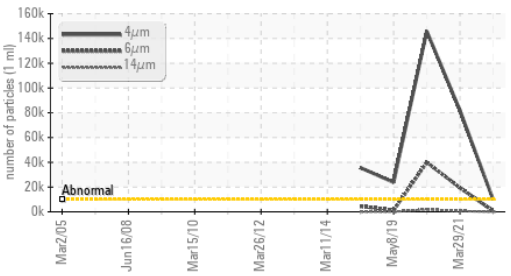
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	**13**	▲ 25	14
Sodium	ppm	ASTM D5185(m)		**<1**	<1	<1
Potassium	ppm	ASTM D5185(m)	>20	**0**	<1	1

OIL ANALYSIS REPORT

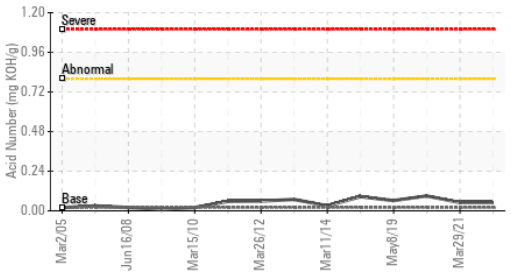
Particle Count



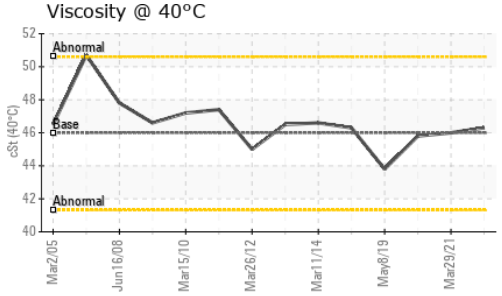
Particle Trend



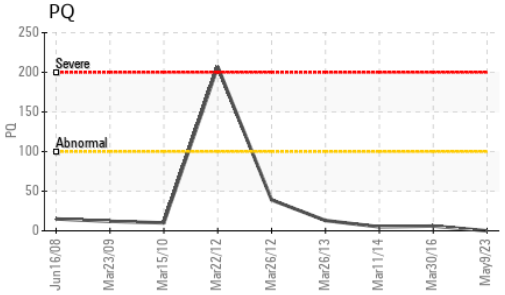
Acid Number



Viscosity @ 40°C



PQ

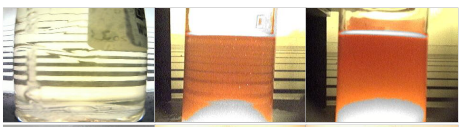


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **10001**	⬢ 81966	⬢ 145864
Particles >6µm		ASTM D7647	>2500	**784**	▲ 19445	⬢ 39971
Particles >14µm		ASTM D7647	>160	**14**	▲ 641	⬢ 1863
Particles >21µm		ASTM D7647	>40	**4**	▲ 115	⬢ 468
Particles >38µm		ASTM D7647	>10	**0**	6	9
Particles >71µm		ASTM D7647	>3	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	▲ **21/17/11**	⬢ 24/21/17	⬢ 24/22/18

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	**0.05**	0.05	0.09

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	VLITE
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	▲ LTMOD
Appearance	scalar	Visual*	NORML	**NORML**	NORML	NORML
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>2	**NEG**	NEG	▲ 5%
Free Water	scalar	Visual*		**NEG**	NEG	▲ .2%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	**46.3**	46.0	45.8

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. : WC0806467 **Received** : 23 May 2023
Lab Number : 02558995 **Diagnosed** : 24 May 2023
Unique Number : 5580035 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: PrtCount, TAN Man)

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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