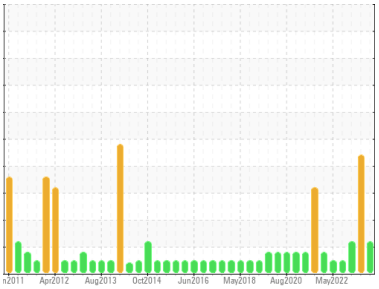
PROBLEM SUMMARY

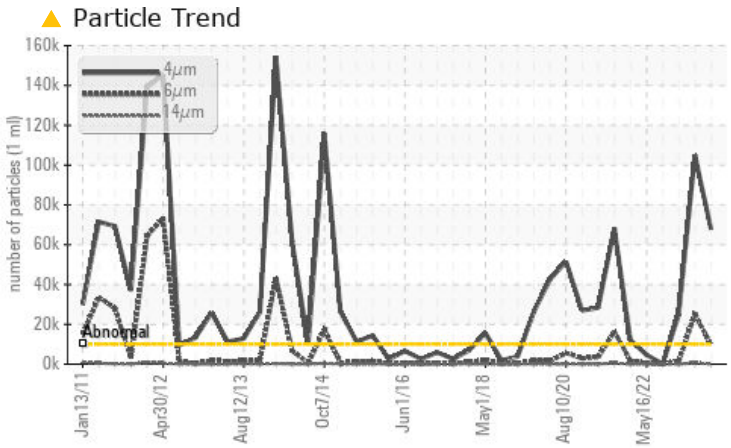
Area
SAB1
Machine Id
SAB1 G8
Component
Turbine Bearing
Fluid
ESSO TERESSO ISO 46 (150 LTR)

Sample Rating Trend



ISO

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	ABNORMAL
Particles >4µm		ASTM D7647	>10000	▲ **67904**	⬢ 105004	▲ 24923
Particles >6µm		ASTM D7647	>1300	▲ **9744**	⬢ 25128	▲ 1430
Oil Cleanliness		ISO 4406 (c)	>20/17/14	▲ **23/20/13**	⬢ 24/22/16	▲ 22/18/11

Customer Id: ONTQUE
Sample No.: WC0828628
Lab Number: 02578759
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.

HISTORICAL DIAGNOSIS

ISO

27 Mar 2023 Diag: Kevin Marson

Check seals and/or filters for points of contaminant entry. 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 recommend you service the filters on this component. 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. Oil Cleanliness are severely high. Particles >14µm are abnormally high. Particles >21µm are notably high. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code. 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

14 Nov 2022 Diag: Kevin Marson

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 and oil cleanliness are abnormally high. Particles >6µm are notably high. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code. 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

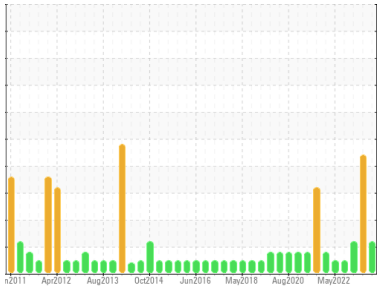
27 Sep 2022 Diag: Kevin Marson

Resample at the next service interval to monitor.All component wear rates are normal. The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable. 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
SAB1
Machine Id
SAB1 G8
Component
Turbine Bearing
Fluid
ESSO TERESSO ISO 46 (150 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. The system cleanliness is above the acceptable limit for the target ISO 4406 cleanliness code.

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		**WC0828628**	WC0642880	WC0587307
Sample Date		Client Info		**27 Aug 2023**	27 Mar 2023	14 Nov 2022
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				**ABNORMAL**	SEVERE	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>7	**2**	2	2
Chromium	ppm	ASTM D5185(m)	>2	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>2	**<1**	<1	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>2	**<1**	0	0
Lead	ppm	ASTM D5185(m)	>33	**2**	3	2
Copper	ppm	ASTM D5185(m)	>3	**1**	1	1
Tin	ppm	ASTM D5185(m)	>6	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	<1	<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

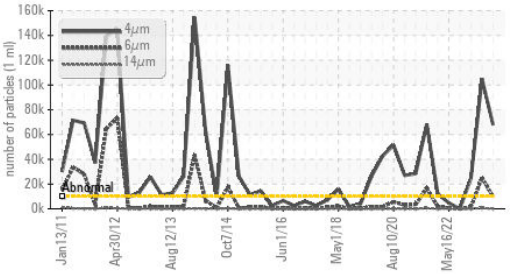
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	**0**	<1	<1
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	<1	0
Magnesium	ppm	ASTM D5185(m)	0	**<1**	<1	0
Calcium	ppm	ASTM D5185(m)	0	**1**	0	<1
Phosphorus	ppm	ASTM D5185(m)	2.4	**5**	4	5
Zinc	ppm	ASTM D5185(m)	0	**4**	3	3
Sulfur	ppm	ASTM D5185(m)		**693**	730	720
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

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

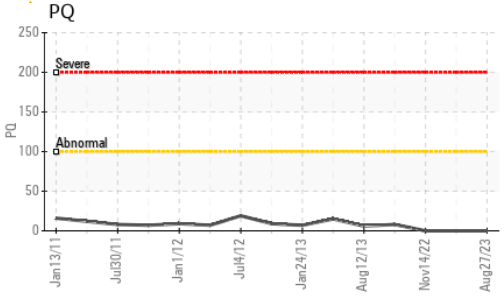
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	▲ **67904**	⬢ 105004	▲ 24923
Particles >6µm		ASTM D7647	>1300	▲ **9744**	⬢ 25128	▲ 1430
Particles >14µm		ASTM D7647	>160	**47**	▲ 592	13
Particles >21µm		ASTM D7647	>40	**4**	▲ 80	3
Particles >38µm		ASTM D7647	>10	**1**	0	1
Particles >71µm		ASTM D7647	>3	**1**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/17/14	▲ **23/20/13**	⬢ 24/22/16	▲ 22/18/11

OIL ANALYSIS REPORT

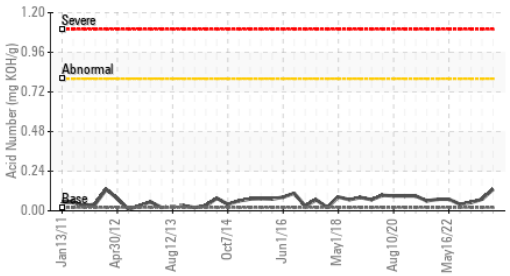
Particle Trend



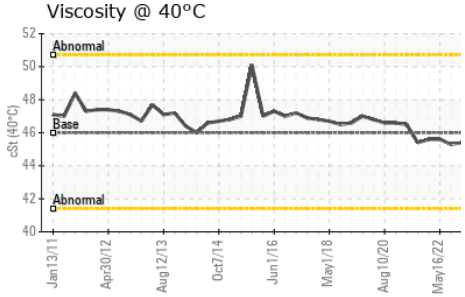
PQ



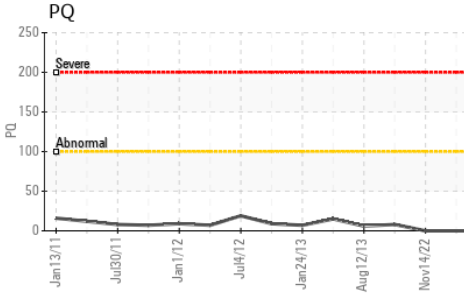
Acid Number



Viscosity @ 40°C



PQ

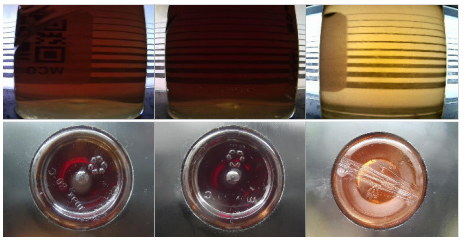


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	**0.13**	0.07	0.05

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	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

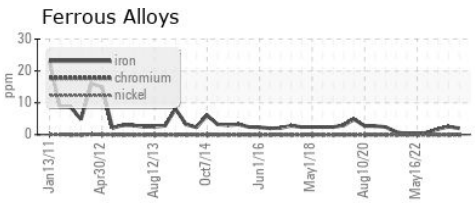
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	**45.4**	45.6	45.4

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

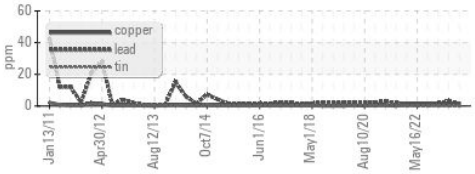


GRAPHS

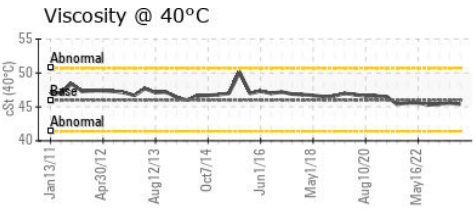
Ferrous Alloys



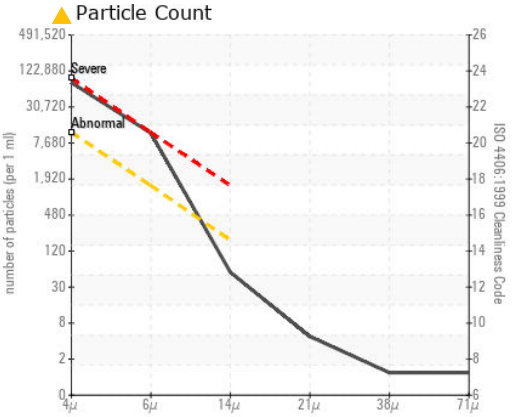
Non-ferrous Metals



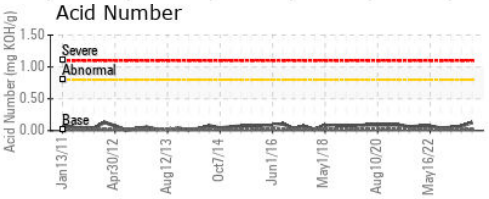
Viscosity @ 40°C



Particle Count



Acid Number



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0828628 **Received** : 28 Aug 2023
Lab Number : 02578759 **Diagnosed** : 29 Aug 2023
Unique Number : 5631819 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: PQ, 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.

Ontario Power Generation
NIAGARA PLANT GROUP,, 14000 NIAGARA PKWY
NIAGARA ON THE LAKE, ON
CA L0S 1J0
Contact: Michael Brochu
mike.brochu@opg.com
T: (905)357-0322
F: (905)374-5466