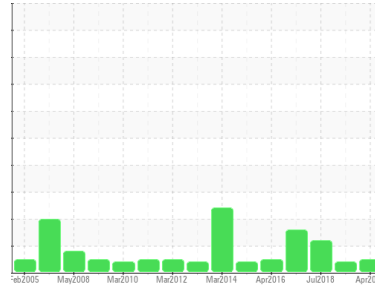




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
CARIBOU FALLS GS
Machine Id
FP4G2
Component
Turbine Bearing
Fluid
ESSO TERESSO ISO 46 (--- GAL)

DIAGNOSIS

Recommendation

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

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

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		WC0560610	WC0475097	WC944842
Sample Date	Client Info		13 Apr 2021	28 May 2020	17 Jul 2018
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			NORMAL	ABNORMAL	ABNORMAL

CONTAMINATION

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

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m) >20	1	<1	2
Chromium	ppm	ASTM D5185(m) >20	0	0	0
Nickel	ppm	ASTM D5185(m) >20	0	0	0
Titanium	ppm	ASTM D5185(m)	0	0	0
Silver	ppm	ASTM D5185(m)	<1	<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)	0	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	<1

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m) 0	<1	0	0
Barium	ppm	ASTM D5185(m)	0	0	0
Molybdenum	ppm	ASTM D5185(m) 0	0	0	0
Manganese	ppm	ASTM D5185(m)	0	<1	<1
Magnesium	ppm	ASTM D5185(m) 0	<1	<1	<1
Calcium	ppm	ASTM D5185(m) 0	<1	0	<1
Phosphorus	ppm	ASTM D5185(m) 2.4	<1	0	<1
Zinc	ppm	ASTM D5185(m) 0	<1	<1	2
Sulfur	ppm	ASTM D5185(m)	2013	1999	1873
Lithium	ppm	ASTM D5185(m)	<1	<1	0

CONTAMINANTS

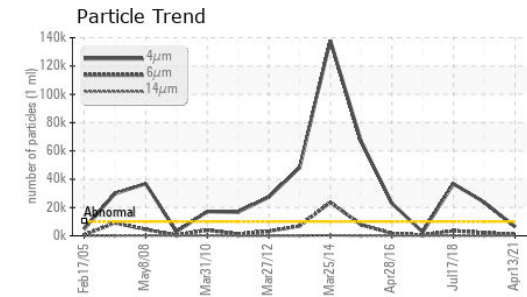
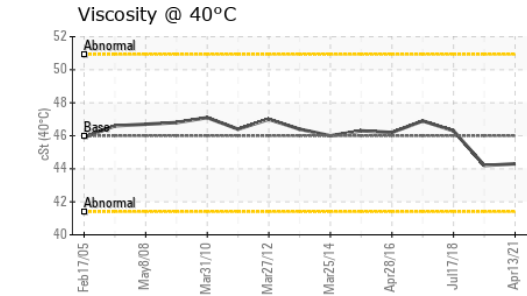
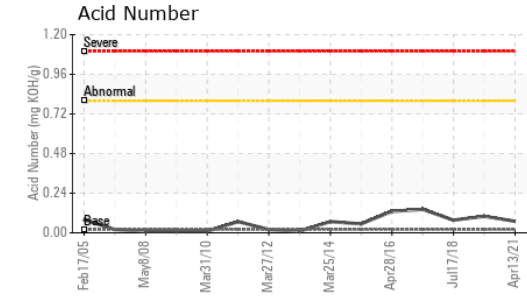
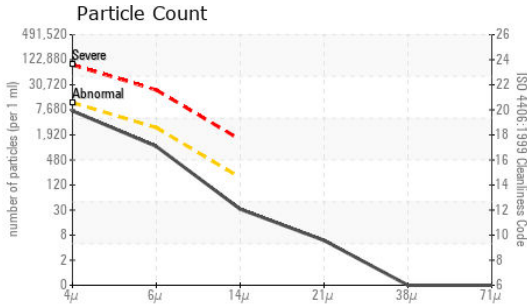
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m) >15	2	1	4
Sodium	ppm	ASTM D5185(m)	<1	0	0
Potassium	ppm	ASTM D5185(m) >20	<1	2	0

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	6321	▲ 23681	▲ 36777
Particles >6µm	ASTM D7647	>2500	892	2166	▲ 3527
Particles >14µm	ASTM D7647	>160	28	12	74
Particles >21µm	ASTM D7647	>40	5	3	15
Particles >38µm	ASTM D7647	>10	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	20/17/12	▲ 22/18/11	▲ 22/19/13



OIL ANALYSIS REPORT



FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	0.07	0.10	0.077

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	NONE	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	44.3	44.2	46.3

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



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0560610 **Received** : 26 May 2021
Lab Number : **02423547** **Diagnosed** : 27 May 2021
Unique Number : 5227047 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: PrtCount, TAN Man)

Ontario Power Generation
 KENORA PRODUCTION CENTRE, 200-60 FOURTEENTH ST. N.
 KENORA, ON
 CA P9N 4M9
 Contact: Josh Robinson
 josh.robinson@opg.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.