



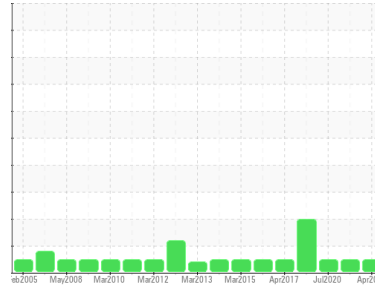
# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Area  
**CARIBOU FALLS GS**  
 Machine Id  
**FP4G3**  
 Component  
**Thrust 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		<b>WC0560600</b>	WC0560605	WC0475099
Sample Date	Client Info		<b>14 Apr 2021</b>	13 Apr 2021	08 Jul 2020
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## CONTAMINATION

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

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>85	<b>&lt;1</b>	5	4
Chromium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)		<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>60	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>7	<b>&lt;1</b>	1	<1
Tin	ppm	ASTM D5185(m)	>40	<b>&lt;1</b>	<1	<1
Antimony	ppm	ASTM D5185(m)		<b>0</b>	0	0
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Beryllium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185(m)		<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	0
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	0	0
Calcium	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Phosphorus	ppm	ASTM D5185(m)	2.4	<b>2</b>	1	0
Zinc	ppm	ASTM D5185(m)	0	<b>2</b>	2	2
Sulfur	ppm	ASTM D5185(m)		<b>2232</b>	2203	2208
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>20	<b>4</b>	<1	<1
Sodium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Potassium	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	0

## FLUID CLEANLINESS

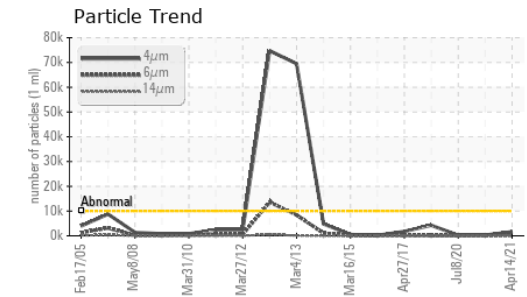
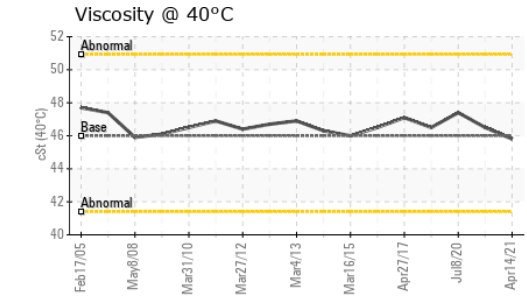
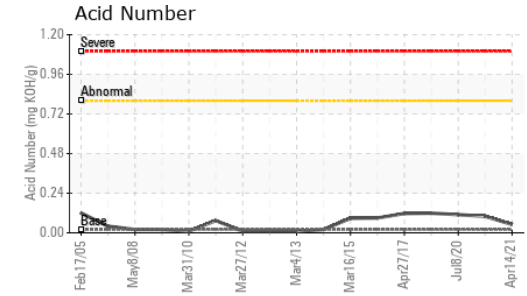
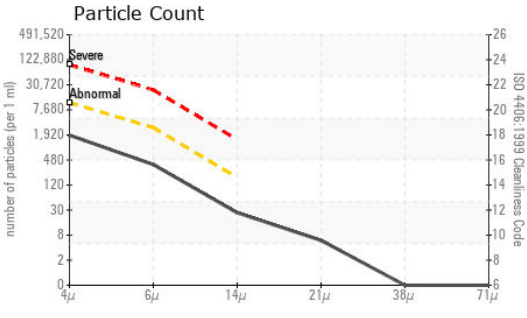
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>10000	<b>1656</b>	285	193
Particles >6µm	ASTM D7647	>2500	<b>327</b>	53	35
Particles >14µm	ASTM D7647	>160	<b>23</b>	4	2
Particles >21µm	ASTM D7647	>40	<b>5</b>	1	0
Particles >38µm	ASTM D7647	>10	<b>0</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>20/18/14	<b>18/16/12</b>	15/13/9	15/12/9

Particle Filter (Magn: 200 x)





# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	<b>0.05</b>	0.10	0.11

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	Visual*	NONE	<b>VLITE</b>	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	Visual*	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	Visual*	>2	<b>NEG</b>	NEG	NEG
Free Water	scalar	Visual*		<b>NEG</b>	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	<b>45.8</b>	46.5	47.4

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



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0560600 **Received** : 26 May 2021  
**Lab Number** : **02423549** **Diagnosed** : 27 May 2021  
**Unique Number** : 5227049 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: BottomAnalysis, FilterPatch, PrtCount )

**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.