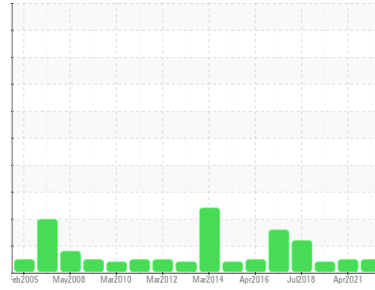




# OIL ANALYSIS REPORT

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			<b>WC0686294</b>	WC0560610	WC0475097
Sample Date	Client Info			<b>11 Jul 2022</b>	13 Apr 2021	28 May 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	ABNORMAL

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)	>20	<b>1</b>	1	<1
Chromium	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>0</b>	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Lead	ppm	ASTM D5185(m)	>20	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	<1
Tin	ppm	ASTM D5185(m)	>20	<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

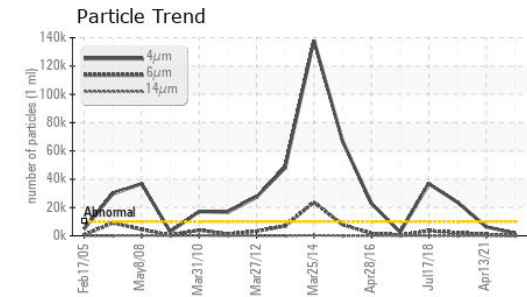
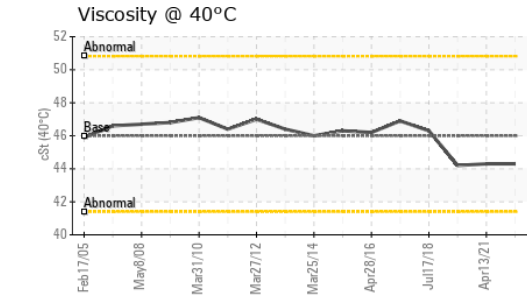
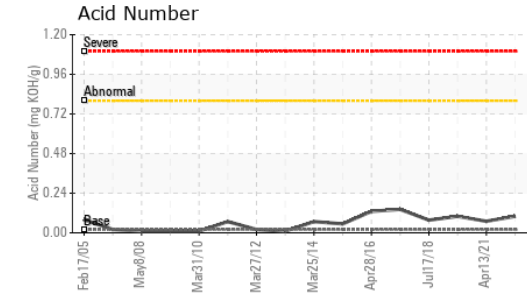
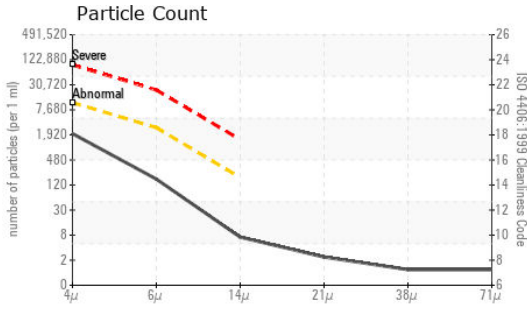
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Barium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185(m)	0	<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	<1
Calcium	ppm	ASTM D5185(m)	0	<b>0</b>	<1	0
Phosphorus	ppm	ASTM D5185(m)	2.4	<b>&lt;1</b>	<1	0
Zinc	ppm	ASTM D5185(m)	0	<b>&lt;1</b>	<1	<1
Sulfur	ppm	ASTM D5185(m)		<b>2002</b>	2013	1999
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>15	<b>3</b>	2	1
Sodium	ppm	ASTM D5185(m)		<b>0</b>	<1	0
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	<b>1803</b>	6321	▲ 23681
Particles >6µm		ASTM D7647	>2500	<b>147</b>	892	2166
Particles >14µm		ASTM D7647	>160	<b>6</b>	28	12
Particles >21µm		ASTM D7647	>40	<b>2</b>	5	3
Particles >38µm		ASTM D7647	>10	<b>1</b>	0	0
Particles >71µm		ASTM D7647	>3	<b>1</b>	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/14	<b>18/14/10</b>	20/17/12	▲ 22/18/11



# OIL ANALYSIS REPORT



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

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>NONE</b>	NONE	NONE
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>44.3</b>	44.3	44.2

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



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : WC0686294 **Received** : 12 Jul 2022  
**Lab Number** : 02499229 **Diagnosed** : 13 Jul 2022  
**Unique Number** : 5424189 **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  
 T:  
 F:

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.