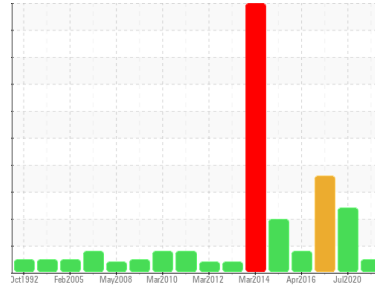




# OIL ANALYSIS REPORT

Sample Rating Trend



Area  
**WHITEDOG FALLS GS**  
Machine Id  
**FP3G1**  
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>WC0686301</b>	WC0475103	WC944824
Sample Date	Client Info	<b>11 Jul 2022</b>	08 Jul 2020	17 Jul 2018
Machine Age	hrs	<b>0</b>	0	0
Oil Age	hrs	<b>0</b>	0	0
Oil Changed	Client Info	<b>N/A</b>	N/A	N/A
Sample Status		<b>NORMAL</b>	ABNORMAL	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>2</b>	2	2
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	0
Aluminum	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Lead	ppm ASTM D5185(m) >20	<b>&lt;1</b>	2	1
Copper	ppm ASTM D5185(m) >20	<b>&lt;1</b>	<1	<1
Tin	ppm ASTM D5185(m) >20	<b>2</b>	1	<1
Antimony	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	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>	0	<1
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>0</b>	<1	<1
Calcium	ppm ASTM D5185(m) 0	<b>&lt;1</b>	2	1
Phosphorus	ppm ASTM D5185(m) 2.4	<b>1</b>	<1	<1
Zinc	ppm ASTM D5185(m) 0	<b>1</b>	2	1
Sulfur	ppm ASTM D5185(m)	<b>1961</b>	2021	2066
Lithium	ppm ASTM D5185(m)	<b>&lt;1</b>	<1	0

## CONTAMINANTS

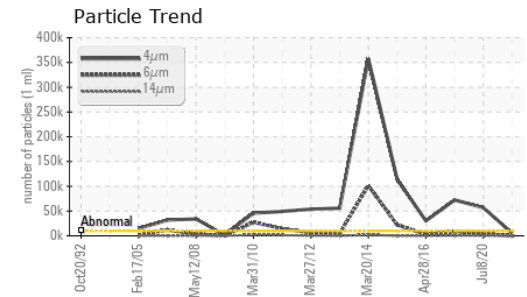
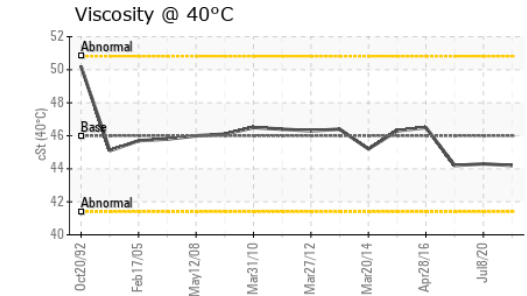
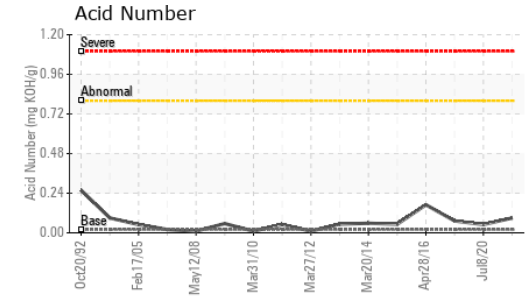
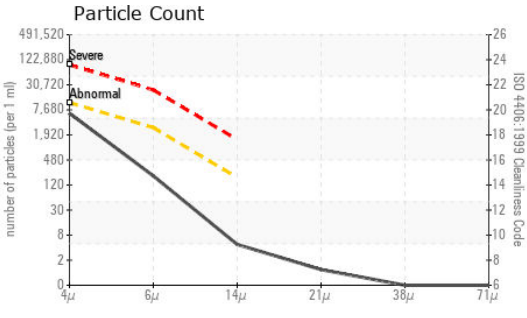
method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185(m) >15	<b>14</b>	▲ 33	▲ 23
Sodium	ppm ASTM D5185(m)	<b>&lt;1</b>	1	0
Potassium	ppm ASTM D5185(m) >20	<b>&lt;1</b>	1	<1

## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	<b>5552</b>	▲ 56904	▲ 72394
Particles >6µm	ASTM D7647 >2500	<b>175</b>	▲ 4345	▲ 8245
Particles >14µm	ASTM D7647 >160	<b>4</b>	62	▲ 451
Particles >21µm	ASTM D7647 >40	<b>1</b>	25	▲ 91
Particles >38µm	ASTM D7647 >10	<b>0</b>	5	1
Particles >71µm	ASTM D7647 >3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c) >20/18/14	<b>20/15/9</b>	▲ 23/19/13	▲ 23/20/16



# OIL ANALYSIS REPORT



FLUID DEGRADATION	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.02	<b>0.09</b>	0.05	0.072

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>	VLITE	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>44.2</b>	44.3	44.2

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.** : WC0686301 **Received** : 12 Jul 2022  
**Lab Number** : **02499221** **Diagnosed** : 13 Jul 2022  
**Unique Number** : 5424181 **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.