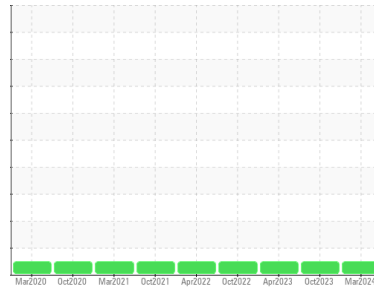




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id PHILADELPHIA GEAR TURBINE 2 LUBE OIL

Component
Gearbox

Fluid
SHELL TURBO T ISO 100 (702 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please note that this is a corrected copy for data entry updates.

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			WC0815319	WC0815317	WC0685283
Sample Date	Client Info			14 Mar 2024	23 Oct 2023	19 Apr 2023
Machine Age	hrs	Client Info		242277	241787	238537
Oil Age	hrs	Client Info		161117	161117	157867
Oil Changed	Client Info			Filtered	Filtered	Not Chngd
Sample Status				NORMAL	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.2	NEG	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>200	2	2	4
Chromium	ppm	ASTM D5185(m)	>10	0	0	0
Nickel	ppm	ASTM D5185(m)	>10	<1	<1	<1
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		0	<1	0
Aluminum	ppm	ASTM D5185(m)	>25	<1	0	0
Lead	ppm	ASTM D5185(m)	>50	0	0	<1
Copper	ppm	ASTM D5185(m)	>200	<1	<1	0
Tin	ppm	ASTM D5185(m)	>10	0	0	0
Antimony	ppm	ASTM D5185(m)	>5	0	0	<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	<1	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		0	0	0
Calcium	ppm	ASTM D5185(m)		<1	<1	0
Phosphorus	ppm	ASTM D5185(m)		<1	<1	0
Zinc	ppm	ASTM D5185(m)		<1	<1	<1
Sulfur	ppm	ASTM D5185(m)		204	159	174
Lithium	ppm	ASTM D5185(m)		<1	<1	1

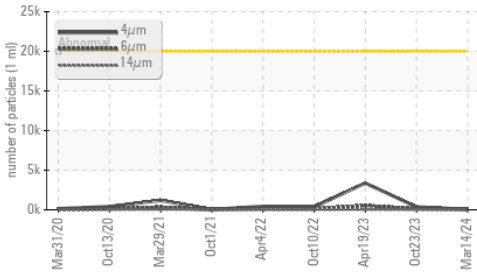
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	2	<1	<1
Sodium	ppm	ASTM D5185(m)		0	0	0
Potassium	ppm	ASTM D5185(m)	>20	<1	0	<1

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	53	372	3370
Particles >6µm		ASTM D7647	>5000	22	124	513
Particles >14µm		ASTM D7647	>640	5	9	27
Particles >21µm		ASTM D7647	>160	2	2	8
Particles >38µm		ASTM D7647	>40	0	0	0
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>21/19/16	13/12/10	16/14/10	19/16/12

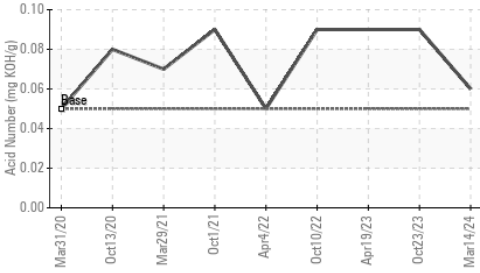


OIL ANALYSIS REPORT

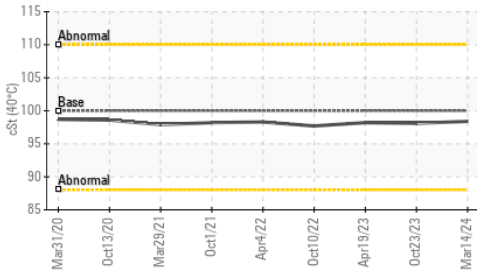
Particle Trend



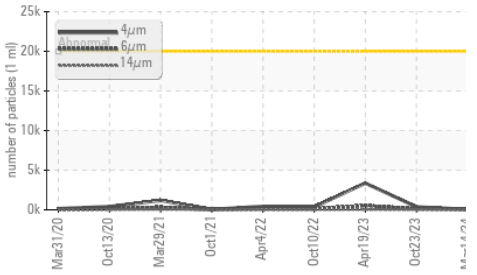
Acid Number



Viscosity @ 40°C



Particle Trend



FLUID DEGRADATION method limit/base current history1 history2

Acid Number (AN)	mg KOH/g	ASTM D974*	.05	0.06	0.09	0.09
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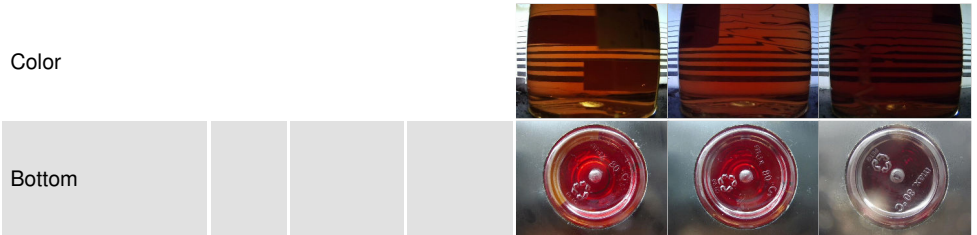
VISUAL method limit/base current history1 history2

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*	>0.2	NEG	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG	NEG

FLUID PROPERTIES method limit/base current history1 history2

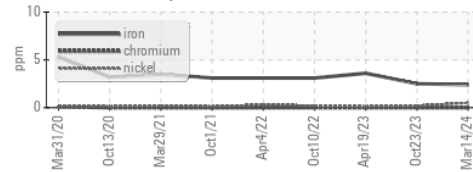
Visc @ 40°C	cSt	ASTM D7279(m)	100	98.4	98.1	98.2
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SAMPLE IMAGES method limit/base current history1 history2

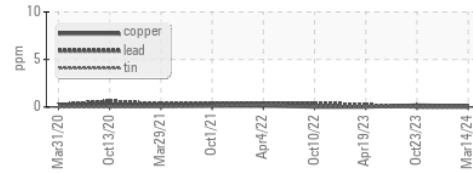


GRAPHS

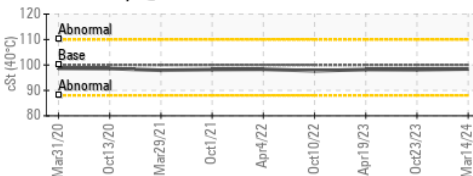
Ferrous Alloys



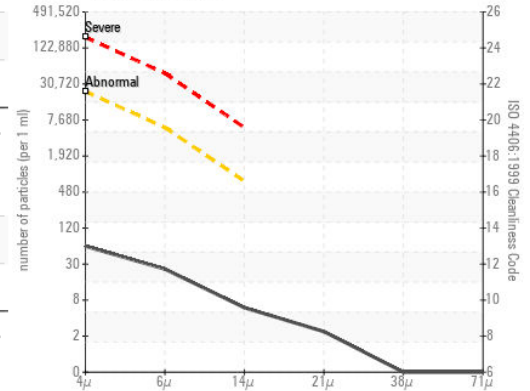
Non-ferrous Metals



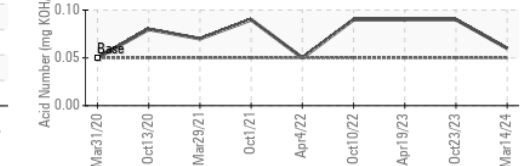
Viscosity @ 40°C



Particle Count



Acid Number



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0815319 **Received** : 18 Mar 2024
Lab Number : 02622833 **Tested** : 21 Mar 2024
Unique Number : 5747952 **Diagnosed** : 21 Mar 2024 - Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

ST. CATHARINES HYDRO GENERATION INC
 340 VANSICKLE RD
 ST. CATHARINES, ON
 CA L2S 0C9
 Contact: TIM REDDICK
 TREDDICK@SCHYDRO.COM
 T: (905)980-6607
 F: (905)646-2667

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.