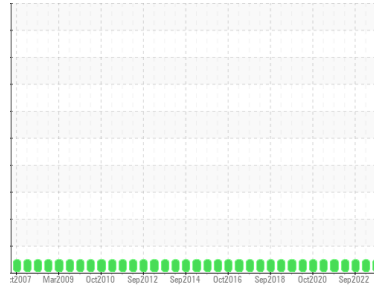




# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



## Machine Id PHILADELPHIA TURBINE 1 LUBE OIL

Component  
**Gearbox**  
Fluid  
**MOBIL DTE OIL HEAVY (702 LTR)**

### DIAGNOSIS

#### Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor.

#### 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

Additive levels indicate the addition of a different brand, or type of oil. 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>WC0815316</b>	WC0685282	WC0685280
Sample Date	Client Info		<b>23 Oct 2023</b>	19 Apr 2023	29 Sep 2022
Machine Age	hrs	Client Info	<b>247455</b>	243612	239370
Oil Age	hrs	Client Info	<b>5093</b>	1250	151084
Oil Changed	Client Info		<b>Filtered</b>	Changed	Filtered
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>200	<b>2</b>	<1	3
Chromium	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185(m)	>10	<b>0</b>	<1	<1
Titanium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Silver	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185(m)	>25	<b>0</b>	0	0
Lead	ppm	ASTM D5185(m)	>50	<b>3</b>	3	<1
Copper	ppm	ASTM D5185(m)	>200	<b>3</b>	2	0
Tin	ppm	ASTM D5185(m)	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185(m)	>5	<b>0</b>	0	<1
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)		<b>&lt;1</b>	<1	0
Barium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Molybdenum	ppm	ASTM D5185(m)		<b>0</b>	0	0
Manganese	ppm	ASTM D5185(m)		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185(m)		<b>0</b>	0	0
Calcium	ppm	ASTM D5185(m)		<b>&lt;1</b>	0	0
Phosphorus	ppm	ASTM D5185(m)		<b>137</b>	156	<1
Zinc	ppm	ASTM D5185(m)		<b>59</b>	69	<1
Sulfur	ppm	ASTM D5185(m)		<b>1989</b>	2104	134
Lithium	ppm	ASTM D5185(m)		<b>&lt;1</b>	<1	<1

### CONTAMINANTS

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

### FLUID CLEANLINESS

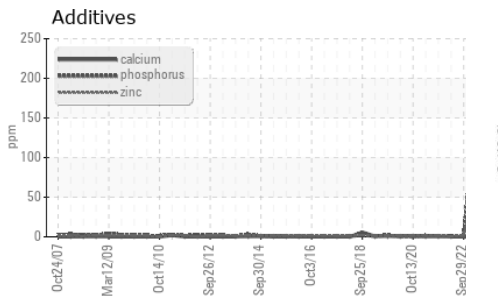
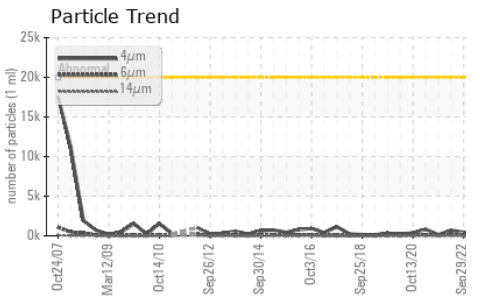
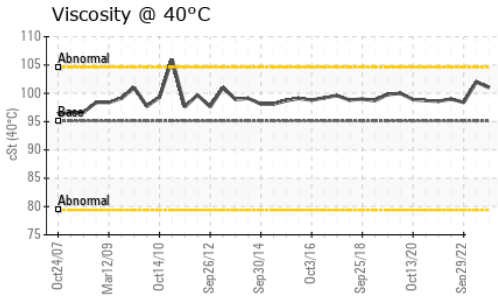
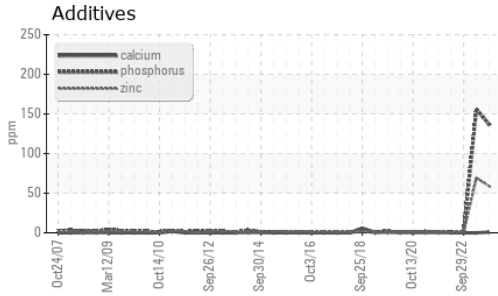
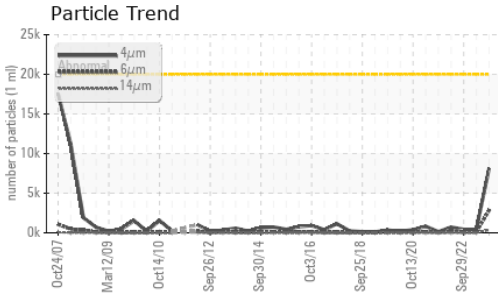
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>20000	<b>8128</b>	439	439
Particles >6µm	ASTM D7647	>5000	<b>2858</b>	120	116
Particles >14µm	ASTM D7647	>640	<b>373</b>	10	7
Particles >21µm	ASTM D7647	>160	<b>120</b>	4	1
Particles >38µm	ASTM D7647	>40	<b>12</b>	1	0
Particles >71µm	ASTM D7647	>10	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>21/19/16	<b>20/19/16</b>	16/14/10	16/14/10

### FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.12</b>	0.13	0.07



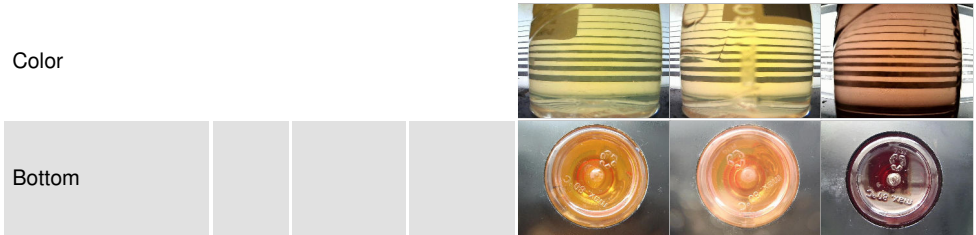
# OIL ANALYSIS REPORT



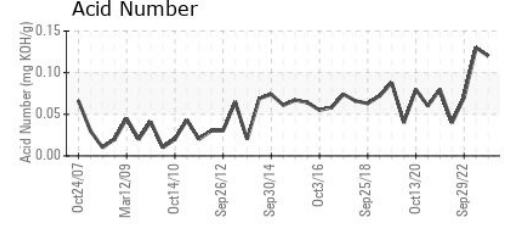
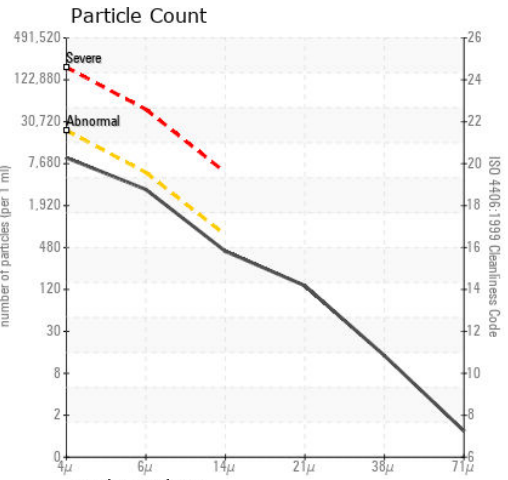
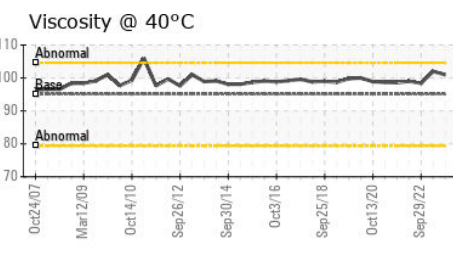
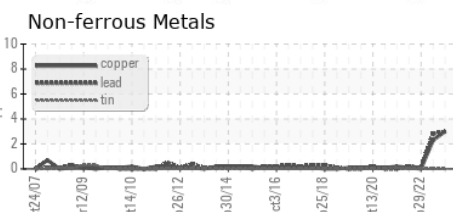
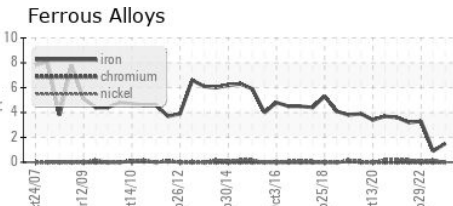
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	NONE	NONE
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance	scalar	Visual*	NORML	NORML	NORML
Odor	scalar	Visual*	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>0.2	NEG	NEG
Free Water	scalar	Visual*		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	101	102

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 ST. CATHARINES HYDRO GENERATION INC  
**Sample No.** : WC0815316 **Received** : 25 Oct 2023  
**Lab Number** : 02591757 **Diagnosed** : 26 Oct 2023  
**Unique Number** : 5668836 **Diagnostician** : Kevin Marson  
**Test Package** : IND 2 ( Additional Tests: TAN Man )  
 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.

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