



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**PHILADELPHIA TURBINE 1 LUBE OIL**

Component  
**Gearbox**

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

## RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	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
Filter Age	hrs	Client Info		<b>720</b>	1250	1368
Oil Changed		Client Info		<b>Filtered</b>	Changed	Filtered
Filter Changed		Client Info		<b>Cleaned</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

## WEAR

All component wear rates are normal.

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
Vanadium	ppm	ASTM D5185(m)		<b>0</b>	0	0
White Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

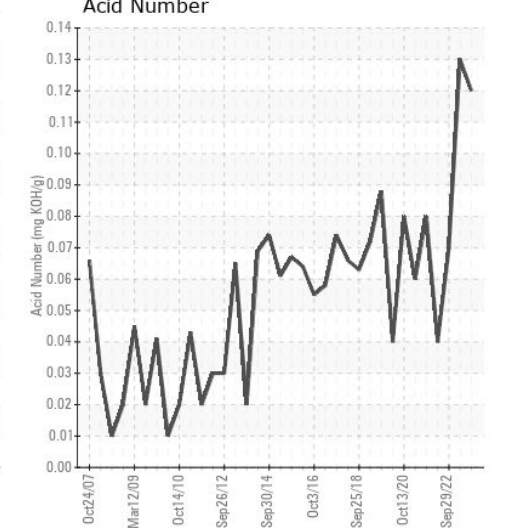
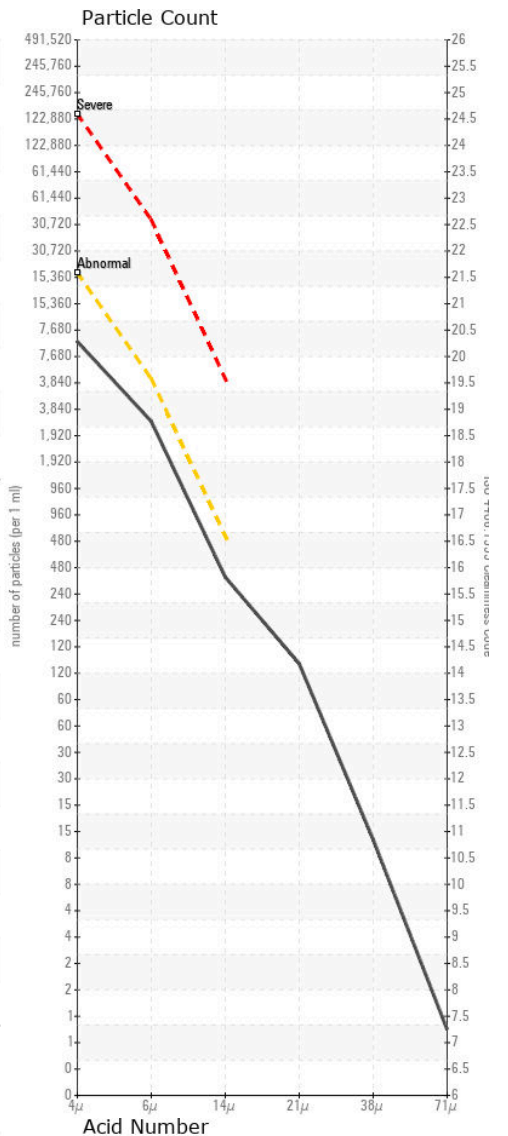
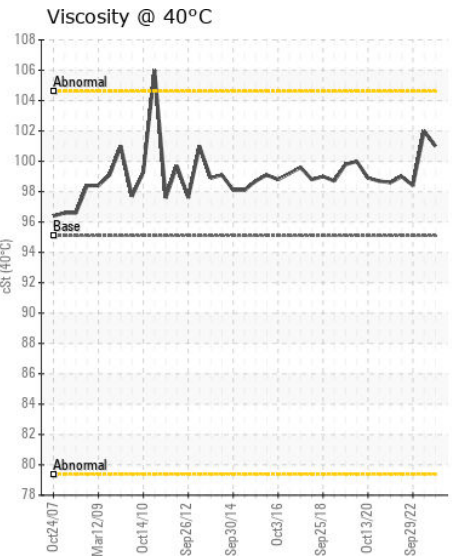
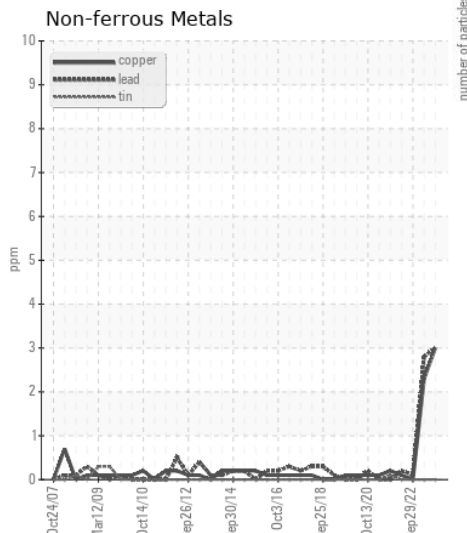
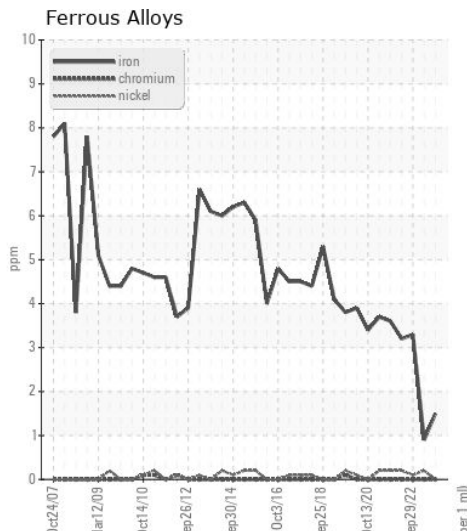
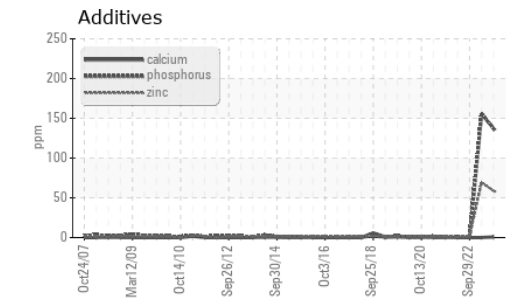
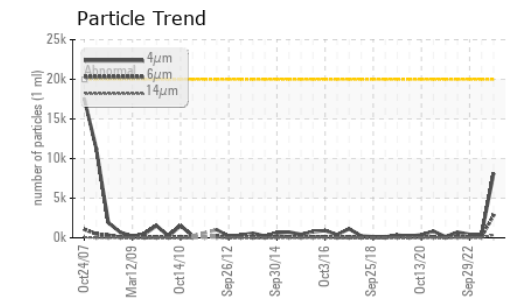
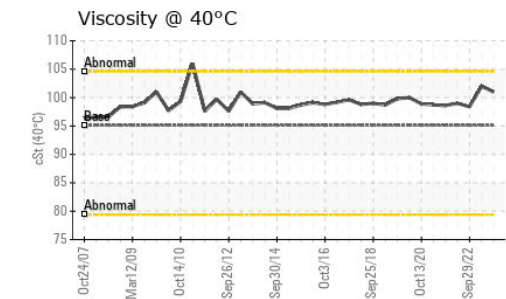
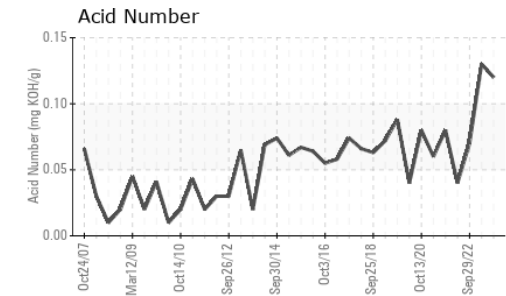
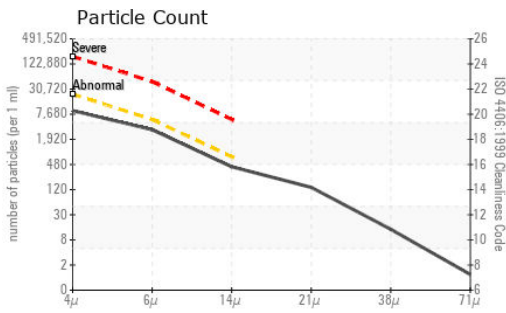
The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Silicon	ppm	ASTM D5185(m)	>50	<b>1</b>	1	<1
Potassium	ppm	ASTM D5185(m)	>20	<b>0</b>	<1	0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
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
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*	>0.2	<b>NEG</b>	NEG	NEG

## 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.

Sodium	ppm	ASTM D5185(m)		<b>0</b>	0	0
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
Acid Number (AN)	mg KOH/g	ASTM D974*		<b>0.12</b>	0.13	0.07
Visc @ 40°C	cSt	ASTM D7279(m)	95.1	<b>101</b>	102	98.4



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

**ST. CATHARINES HYDRO GENERATION INC**  
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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.