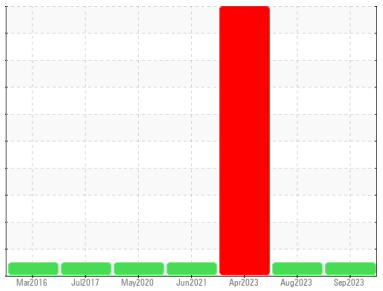
OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL

Machine Id
BFP - UNIT 5 THRUST BEARING (S/N 375301)
Component
Circulating Thrust Bearing
Fluid
SHELL TURBO T ISO 46 (30 LTR)

DIAGNOSIS

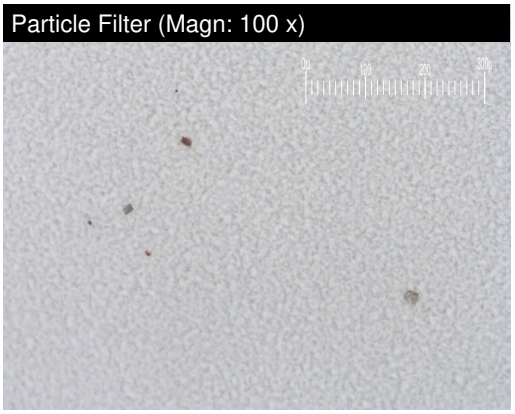
Recommendation
Resample at the next service interval to monitor.

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
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Particle Filter (Magn: 100 x)



SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0827900**	WC0827898	WC0701183
Sample Date		Client Info		**28 Sep 2023**	03 Aug 2023	25 Apr 2023
Machine Age	yrs	Client Info		**0**	0	0
Oil Age	yrs	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**NORMAL**	NORMAL	SEVERE

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>85	**0**	3	11
Chromium	ppm	ASTM D5185(m)	>20	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**<1**	<1	0
Aluminum	ppm	ASTM D5185(m)	>40	**0**	0	0
Lead	ppm	ASTM D5185(m)	>60	**0**	0	0
Copper	ppm	ASTM D5185(m)	>7	**0**	<1	<1
Tin	ppm	ASTM D5185(m)	>40	**0**	0	5
Antimony	ppm	ASTM D5185(m)		**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)	4.0	**<1**	<1	0
Barium	ppm	ASTM D5185(m)	0	**<1**	<1	0
Molybdenum	ppm	ASTM D5185(m)	0	**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)	0	**0**	0	0
Calcium	ppm	ASTM D5185(m)	0	**<1**	4	0
Phosphorus	ppm	ASTM D5185(m)	2.1	**<1**	28	0
Zinc	ppm	ASTM D5185(m)	2.0	**<1**	37	1
Sulfur	ppm	ASTM D5185(m)	1300	**12**	108	161
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

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

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**415**	3687	⬢ 109396
Particles >6µm		ASTM D7647	>2500	**137**	1352	⬢ 41979
Particles >14µm		ASTM D7647	>160	**13**	108	⬢ 4162
Particles >21µm		ASTM D7647	>40	**4**	26	⬢ 1297
Particles >38µm		ASTM D7647	>10	**1**	2	▲ 33
Particles >71µm		ASTM D7647	>3	**0**	0	2
Oil Cleanliness		ISO 4406 (c)	>20/18/14	**16/14/11**	19/18/14	⬢ 24/23/19

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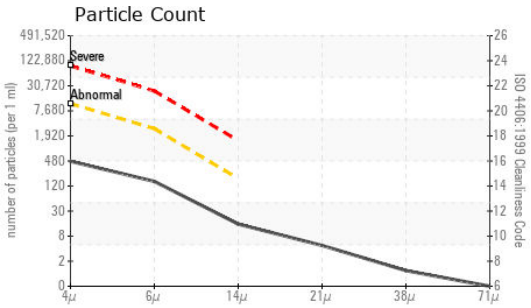
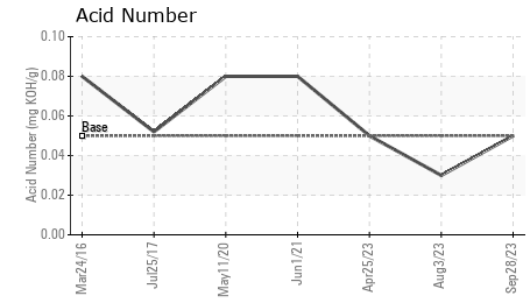
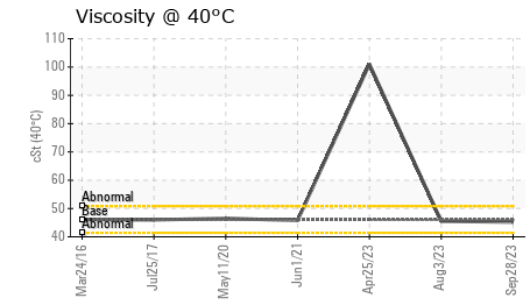
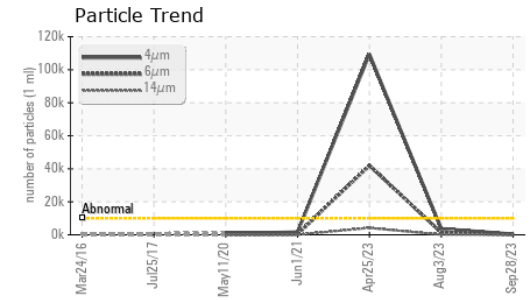






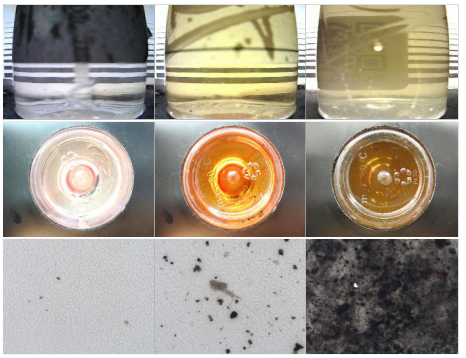


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	.05	**0.05**	0.03	0.05

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	VLITE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	**NORML**	NORML	▲ WGOIL
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>2	**NEG**	NEG	.2%
Free Water	scalar	Visual*		**NEG**	NEG	▲ 1%

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	46	**45.2**	45.5	▲ 101

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					
PrtFilter					



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **Nalcor Energy - Grand Falls-Windsor**
Sample No. : WC0827900 **Recieved** : 14 Dec 2023 25 Hardy Avenue
Lab Number : 02603224 **Diagnosed** : 18 Dec 2023 Grand Falls-Windsor, NL
Unique Number : 5696309 **Diagnostician** : Kevin Marson CA A2A 2P8
Test Package : IND 2 (Additional Tests: BottomAnalysis, FilterPatch, PrtCount, PrtFilter, TAN Man) Contact: Phillip Winsor

To discuss this sample report, contact Customer Service at 1-800-268-2131. philipwinsor@nlh.nl.ca
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T: (709)486-8714
Validity of results and interpretation are based on the sample and information as supplied. F: