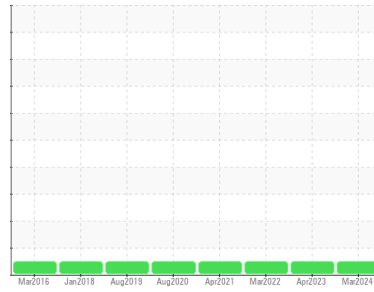




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Area  
**Thompson Falls**  
 Machine Id  
**THF02 Generator Lube Oil**  
 Component  
**Case Drain Lube System**  
 Fluid  
**CONOCO TURBINE OIL 68 (360 GAL)**

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

#### 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>WC0757776</b>	WCI2326279	WCI2326094
Sample Date	Client Info		<b>26 Mar 2024</b>	21 Apr 2023	29 Mar 2022
Machine Age	yrs	Client Info	<b>15</b>	14	13
Oil Age	yrs	Client Info	<b>15</b>	14	13
Oil Changed	Client Info		<b>Not Chngd</b>	Not Chngd	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

### CONTAMINATION

	method	limit/base	current	history1	history2
Water	WC Method	>0.05	<b>NEG</b>	NEG	NEG

### WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	<b>0</b>	0
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0
Nickel	ppm	ASTM D5185m	>20	<b>0</b>	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Silver	ppm	ASTM D5185m		<b>0</b>	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	0
Lead	ppm	ASTM D5185m	>20	<b>0</b>	0
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0
Antimony	ppm	ASTM D5185m		<b>---</b>	---
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0

### ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	0
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Calcium	ppm	ASTM D5185m		<b>8</b>	0
Phosphorus	ppm	ASTM D5185m		<b>15</b>	8
Zinc	ppm	ASTM D5185m		<b>7</b>	0
Sulfur	ppm	ASTM D5185m		<b>285</b>	328

### CONTAMINANTS

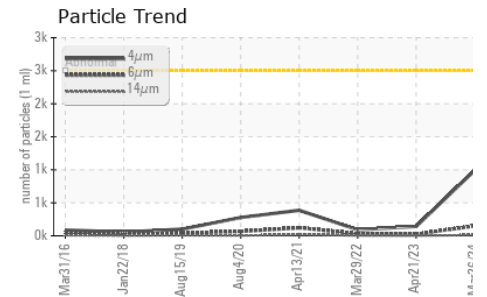
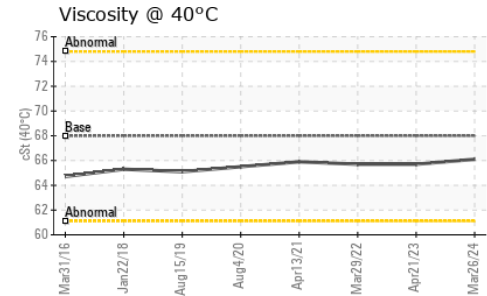
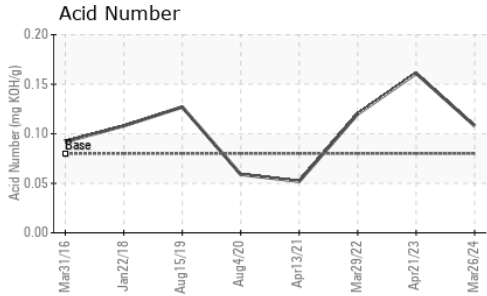
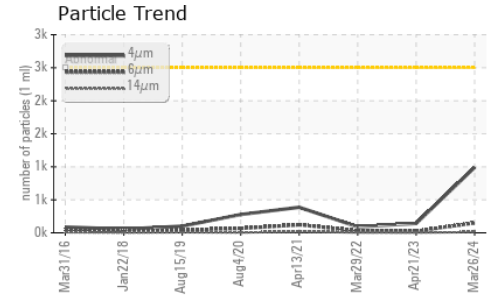
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>0</b>	<1
Sodium	ppm	ASTM D5185m		<b>0</b>	<1
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0

### FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	<b>991</b>	142	91
Particles >6µm	ASTM D7647	>640	<b>149</b>	25	31
Particles >14µm	ASTM D7647	>80	<b>11</b>	3	5
Particles >21µm	ASTM D7647	>20	<b>2</b>	1	2
Particles >38µm	ASTM D7647	>4	<b>0</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>18/16/13	<b>17/14/11</b>	14/12/9	14/12/10



# OIL ANALYSIS REPORT

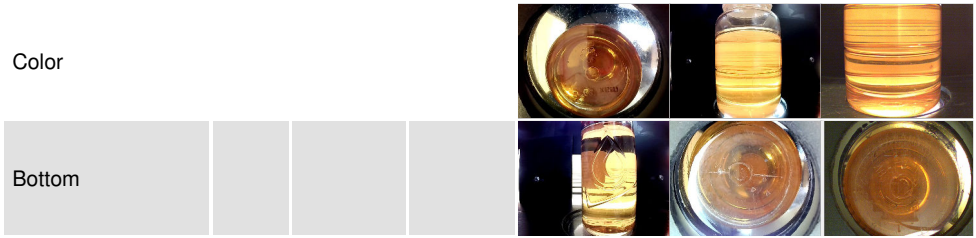


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.08	<b>0.108</b>	0.161	0.12

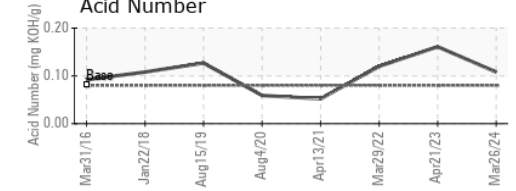
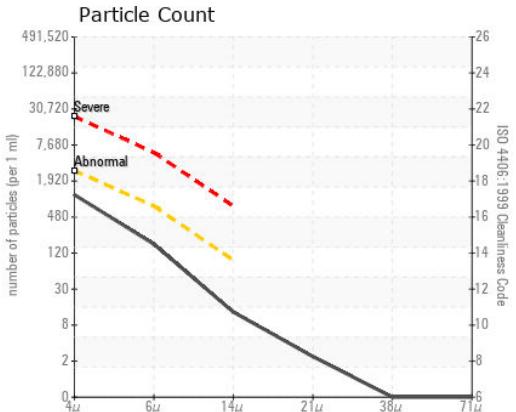
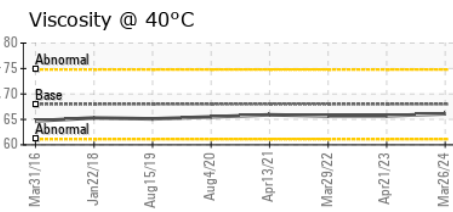
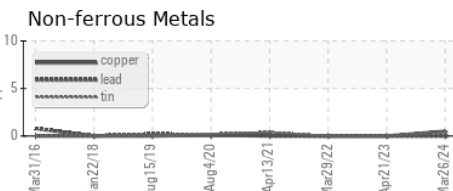
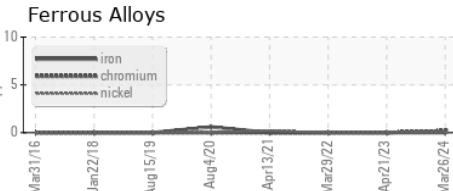
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	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	>0.05	<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 D445	68	<b>66.1</b>	65.7	65.7

### SAMPLE IMAGES



### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0757776  
**Lab Number** : 06142200  
**Unique Number** : 10967008  
**Test Package** : IND 2  
**Received** : 08 Apr 2024  
**Tested** : 11 Apr 2024  
**Diagnosed** : 11 Apr 2024 - Don Baldrige

**NORTHWESTERN ENERGY**  
 6700 RAINBOW DAM RD  
 GREAT FALLS, MT  
 US 59404  
 Contact: STANLEY BOGNATZ  
 srb@mbesi.com

To discuss this sample report, contact Customer Service at 1-800-237-1369.

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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