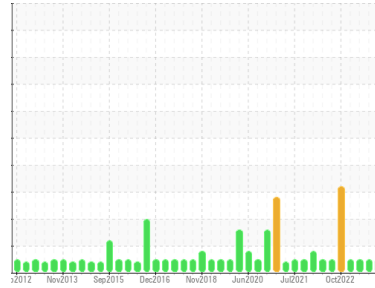




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**Ryan**

Machine Id

**RYN03 Generator Thrust / Guide Bearing (S/N 695327)**

Component

**Reservoir Journal Bearing**

Fluid

**CONOCO TURBINE OIL 68 (30 GAL)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system 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		<b>WC0757840</b>	WC0757801	WC0757803
Sample Date	Client Info		<b>17 Oct 2023</b>	15 Jul 2023	01 May 2023
Machine Age	hrs	Client Info	<b>0</b>	0	0
Oil Age	hrs	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >60	<b>&lt;1</b>	<1	0
Chromium	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m >20	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >4	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185m >250	<b>0</b>	0	0
Copper	ppm	ASTM D5185m >125	<b>&lt;1</b>	0	0
Tin	ppm	ASTM D5185m >80	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m	<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	<b>0</b>	0	0
Barium	ppm	ASTM D5185m	<b>20</b>	2	1
Molybdenum	ppm	ASTM D5185m	<b>0</b>	0	0
Manganese	ppm	ASTM D5185m	<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m	<b>0</b>	0	3
Calcium	ppm	ASTM D5185m	<b>0</b>	0	2
Phosphorus	ppm	ASTM D5185m	<b>52</b>	16	16
Zinc	ppm	ASTM D5185m	<b>21</b>	2	3
Sulfur	ppm	ASTM D5185m	<b>0</b>	0	9

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >50	<b>2</b>	3	3
Sodium	ppm	ASTM D5185m	<b>3</b>	0	0
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	<1

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>640	<b>411</b>	245	179
Particles >6µm	ASTM D7647	>160	<b>136</b>	101	51
Particles >14µm	ASTM D7647	>40	<b>16</b>	15	4
Particles >21µm	ASTM D7647	>10	<b>5</b>	4	1
Particles >38µm	ASTM D7647	>3	<b>0</b>	0	0
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>16/14/12	<b>16/14/11</b>	15/14/11	15/13/9

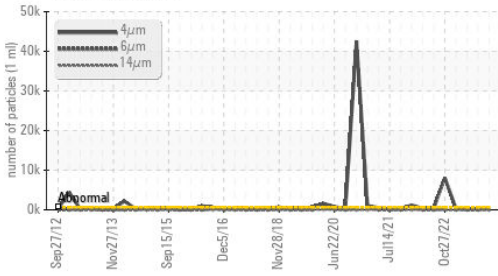
## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.08	<b>0.13</b>	0.10	0.12

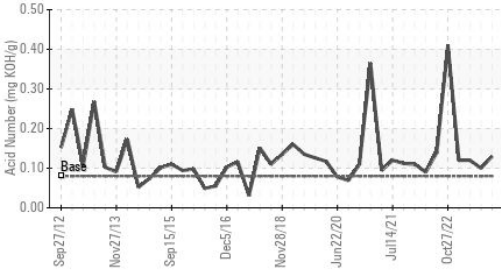


# OIL ANALYSIS REPORT

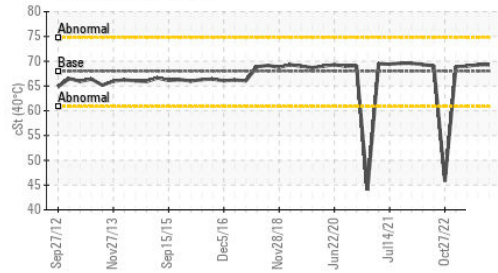
Particle Trend



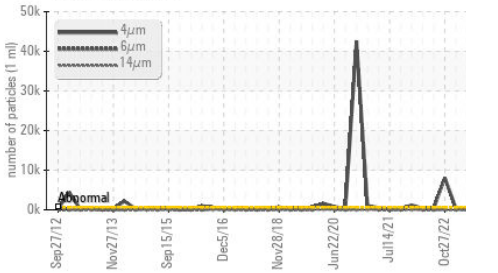
Acid Number



Viscosity @ 40°C



Particle Trend

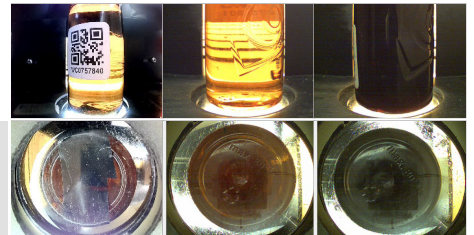


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 68	69.3	69.3	69.0

SAMPLE IMAGES	method	limit/base	current	history1	history2
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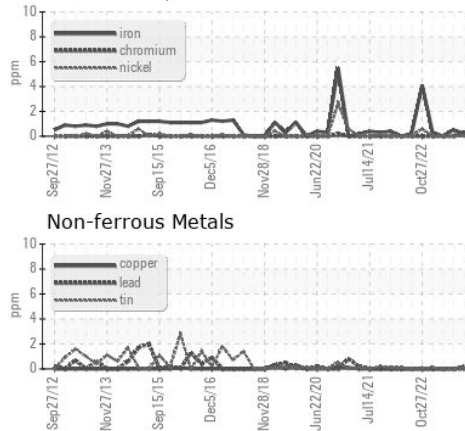
Color



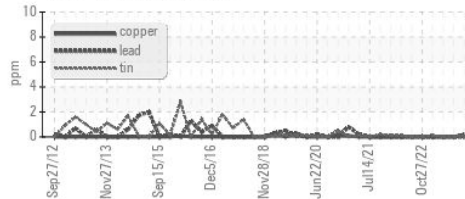
Bottom

## GRAPHS

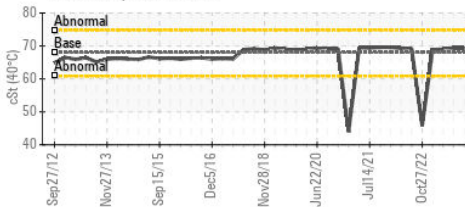
Ferrous Alloys



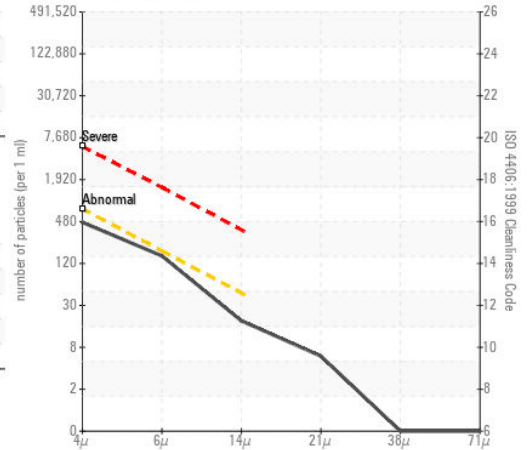
Non-ferrous Metals



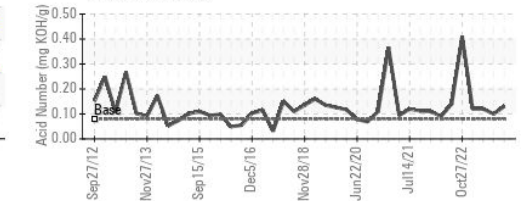
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : WC0757840 Received : 31 Oct 2023  
 Lab Number : 05994341 Diagnosed : 01 Nov 2023  
 Unique Number : 10722701 Diagnostician : Angela Borella  
 Test Package : IND 2 ( Additional Tests: PrtCount )

**NORTHWESTERN ENERGY**  
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 srb@mbsi.com  
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 F: (570)227-0014

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)