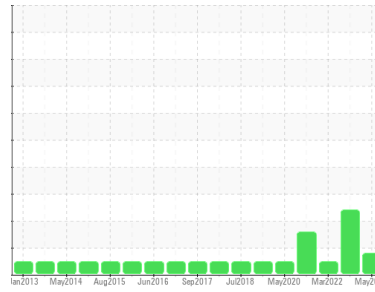




# OIL ANALYSIS REPORT

Sample Rating Trend



**WEAR**



Machine Id  
**TURBINA 05 (S/N 101182)**

Component  
**Wind Turbine Gearbox**

Fluid  
**FUCHS RENOLIN UNISYN CLP 320 (320 LTR)**

## DIAGNOSIS

### ▲ Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### ▲ Wear

The iron level is abnormal.

### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are 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>WC0831486</b>	WC0505302	WC05582427
Sample Date	Client Info		<b>03 May 2024</b>	22 Aug 2023	29 Mar 2022
Machine Age	yrs	Client Info	<b>12</b>	11	72
Oil Age	yrs	Client Info	<b>9</b>	7	0
Oil Changed	Client Info		<b>N/A</b>	Changed	N/A
Sample Status			<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>50	<b>10</b>	16	19	
Iron	ppm	ASTM D5185m	>30	<b>▲ 56</b>	▲ 49	23
Chromium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>1</b>	0	<1
Lead	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
Copper	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
Cadmium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		<b>0</b>	0	0
Barium	ppm	ASTM D5185m		<b>1</b>	2	0
Molybdenum	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Manganese	ppm	ASTM D5185m		<b>0</b>	0	0
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Calcium	ppm	ASTM D5185m		<b>8</b>	7	4
Phosphorus	ppm	ASTM D5185m		<b>199</b>	196	135
Zinc	ppm	ASTM D5185m		<b>125</b>	125	96
Sulfur	ppm	ASTM D5185m		<b>3808</b>	4100	3122

## CONTAMINANTS

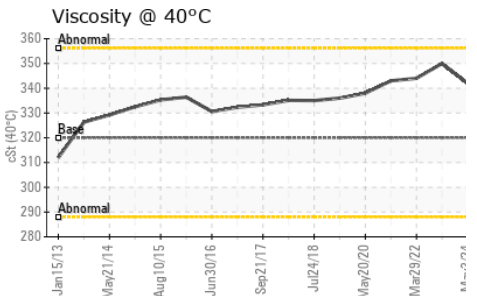
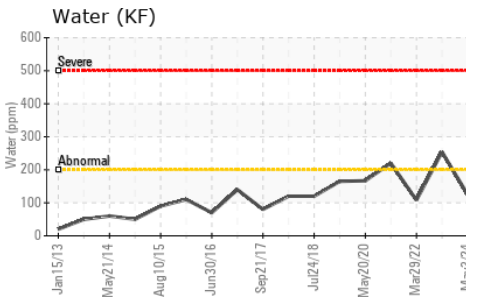
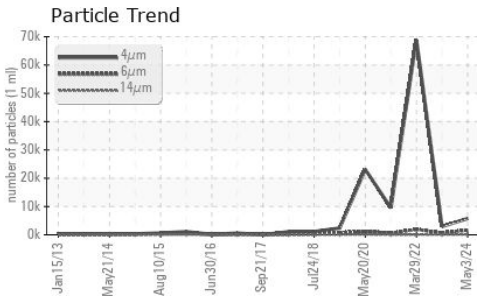
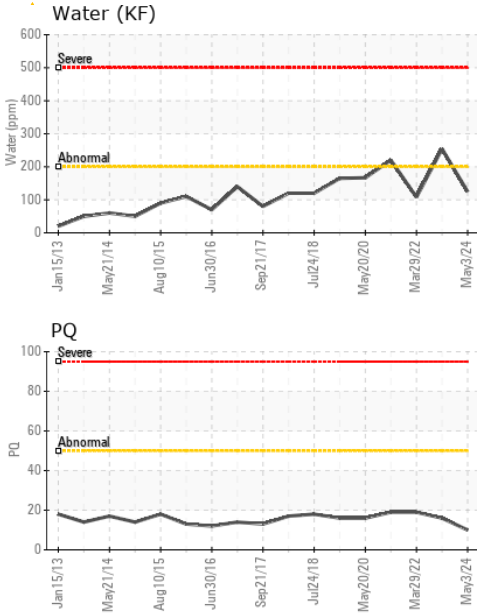
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+15	<b>1</b>	<1	<1
Sodium	ppm	ASTM D5185m		<b>5</b>	0	<1
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	<1	0
Water	%	ASTM D6304	>0.02	<b>0.012</b>	▲ 0.025	0.010
ppm Water	ppm	ASTM D6304	>200	<b>125</b>	▲ 253.9	107.9

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>5759</b>	2937	68826
Particles >6µm	ASTM D7647	>5000	<b>1616</b>	653	1887
Particles >14µm	ASTM D7647	>640	<b>85</b>	39	55
Particles >21µm	ASTM D7647	>160	<b>19</b>	12	18
Particles >38µm	ASTM D7647	>40	<b>1</b>	1	1
Particles >71µm	ASTM D7647	>10	<b>0</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>--/19/16	<b>20/18/14</b>	19/17/12	23/18/13



# OIL ANALYSIS REPORT

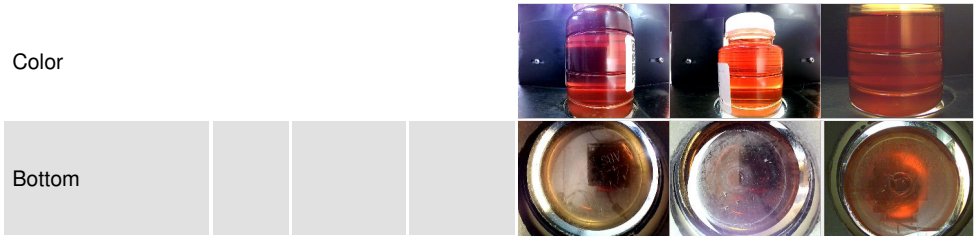


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	<b>1.00</b>	0.93	0.98

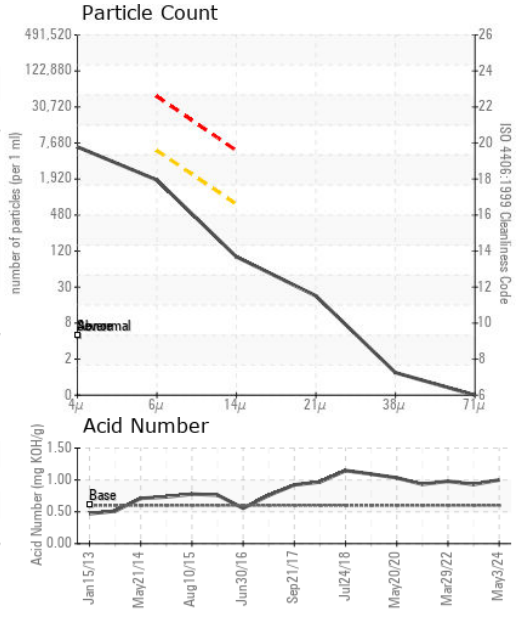
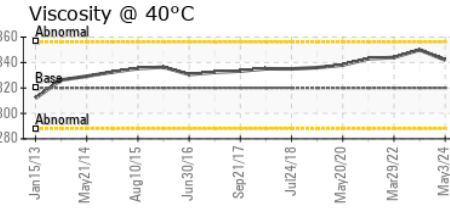
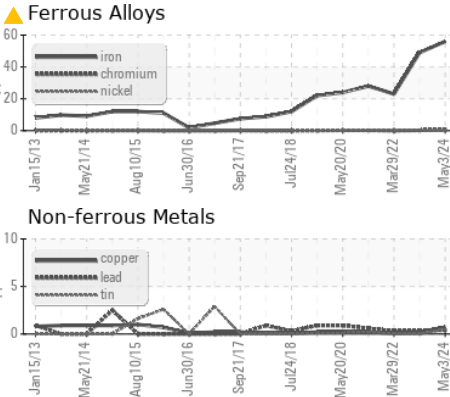
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>LIGHT</b>	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	>0.02	<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	320	<b>342</b>	350	344

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0831486  
**Lab Number** : 06194660  
**Unique Number** : 11056783  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**Received** : 29 May 2024  
**Tested** : 31 May 2024  
**Diagnosed** : 31 May 2024 - Angela Borella

**EOLO DE NICARAGUA S.A.**  
 DEL SEMAFORO DEL CLUB TERRAZA, 1 CUADRA AL SUR  
 MANAGUA, ZZ  
 NI  
 Contact: Rafael Bermudez

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)

T:  
F: