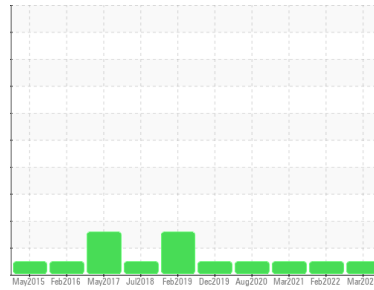




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**13**  
Machine Id  
**WTG-1303 (S/N EH806A-003-LM0042)**

Component  
**Wind Turbine Gearbox**  
Fluid  
**FUCHS RENOLIN UNISYN CKC ISO 320 (340 LTR)**

## 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 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>WC0804486</b>	WC05504488	WC0547198
Sample Date	Client Info		<b>04 Mar 2023</b>	05 Feb 2022	06 Mar 2021
Machine Age	mths	Client Info	<b>46</b>	29	120
Oil Age	mths	Client Info	<b>46</b>	0	65
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>50	<b>10</b>	12	18	
Iron	ppm	ASTM D5185m	>65	<b>13</b>	10	8
Chromium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Lead	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>10	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---	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	25	<b>0</b>	0	<1
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0	<1
Calcium	ppm	ASTM D5185m	17	<b>21</b>	21	18
Phosphorus	ppm	ASTM D5185m	200	<b>244</b>	265	225
Zinc	ppm	ASTM D5185m		<b>2</b>	0	0
Sulfur	ppm	ASTM D5185m	5000	<b>5692</b>	4531	4203

## CONTAMINANTS

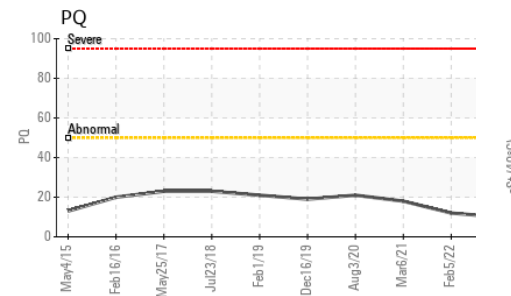
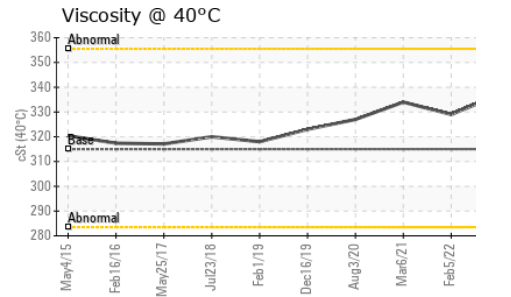
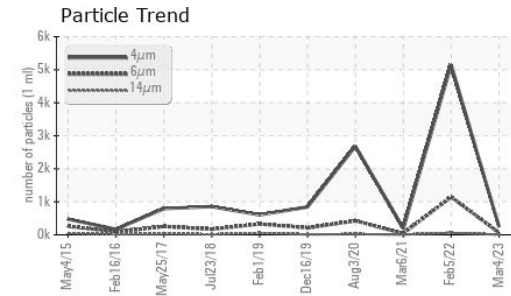
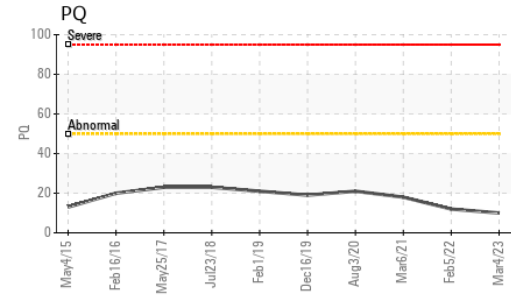
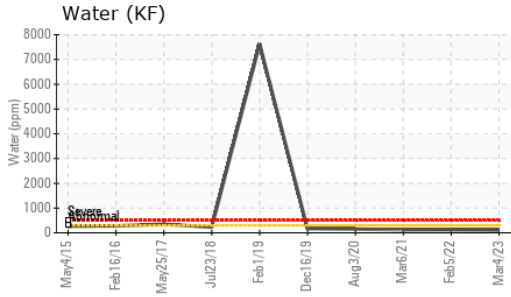
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>15	<b>0</b>	0	0
Sodium	ppm	ASTM D5185m		<b>6</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0	<1
Water	%	ASTM D6304	>0.03	<b>0.011</b>	0.012	0.012
ppm Water	ppm	ASTM D6304	>300	<b>110.3</b>	123.3	121.8

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>243</b>	5145	195
Particles >6µm	ASTM D7647	>5000	<b>63</b>	1144	41
Particles >14µm	ASTM D7647	>640	<b>5</b>	57	6
Particles >21µm	ASTM D7647	>160	<b>2</b>	10	2
Particles >38µm	ASTM D7647	>40	<b>1</b>	2	0
Particles >71µm	ASTM D7647	>10	<b>1</b>	0	0
Oil Cleanliness	ISO 4406 (c)	>--/19/16	<b>15/13/10</b>	20/17/13	15/13/10



# OIL ANALYSIS REPORT

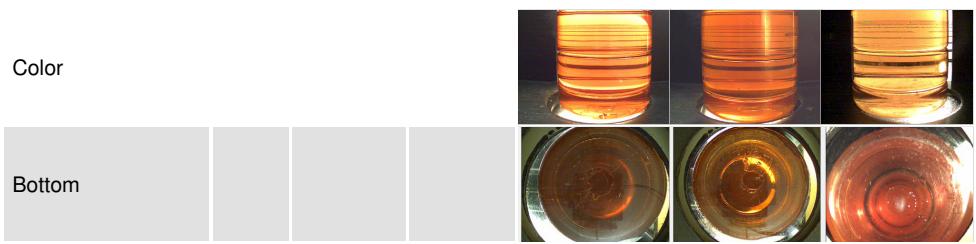


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.9	<b>1.05</b>	1.01	0.852

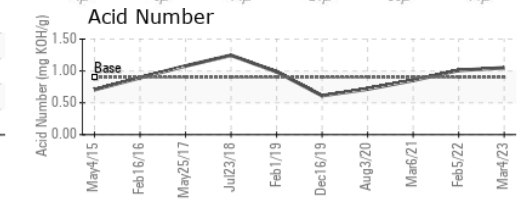
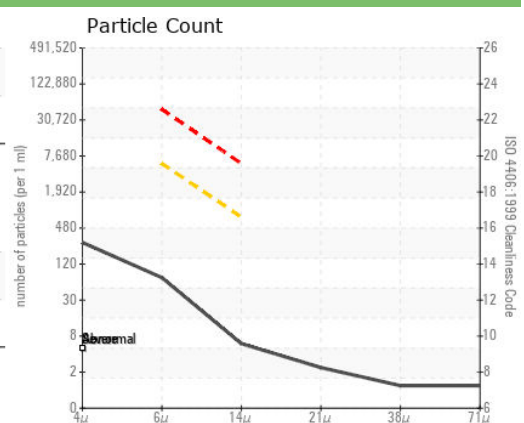
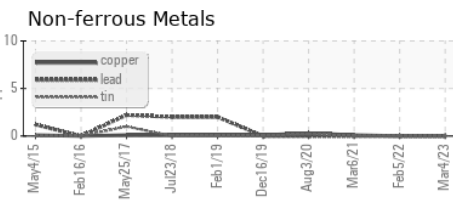
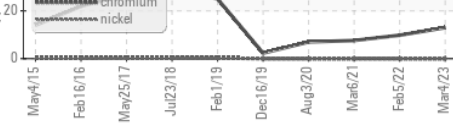
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	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	>0.03	<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	315	<b>337</b>	329	334

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0804486 **Received** : 26 May 2023  
**Lab Number** : 05857939 **Diagnosed** : 30 May 2023  
**Unique Number** : 10492404 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**ENERGIA EOLICA**  
 STA ANA KM25 CARRETERA AL SUR, A 1KM DEL CRUCE  
 FRANCISCO MORAZAN, ZZ  
 HN  
 Contact: SANTOS DEL CID  
 sdelcid@dennci.com

Certificate L2367  
 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)