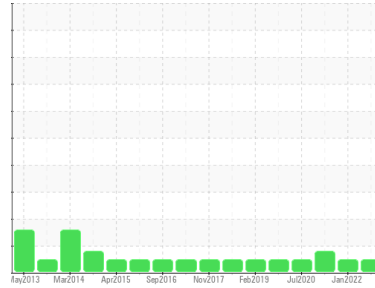




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area

**1**  
Machine Id  
**WINERGY GEARBOX WTG-101 (S/N 4836490-0020-1)**

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>WC0804460</b>	WC05504525	WC0547134
Sample Date	Client Info		<b>27 Feb 2023</b>	26 Jan 2022	01 Mar 2021
Machine Age	mths	Client Info	<b>89</b>	74	120
Oil Age	mths	Client Info	<b>89</b>	0	65
Oil Changed	Client Info		<b>Not Chngd</b>	N/A	Not Chngd
Sample Status			<b>NORMAL</b>	NORMAL	ABNORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>50	<b>14</b>	17	20
Iron	ppm	ASTM D5185m	>65	<b>63</b>	58
Chromium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1
Nickel	ppm	ASTM D5185m	>3	<b>0</b>	0
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0
Lead	ppm	ASTM D5185m	>5	<b>0</b>	0
Copper	ppm	ASTM D5185m	>10	<b>0</b>	<1
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0

## ADDITIVES

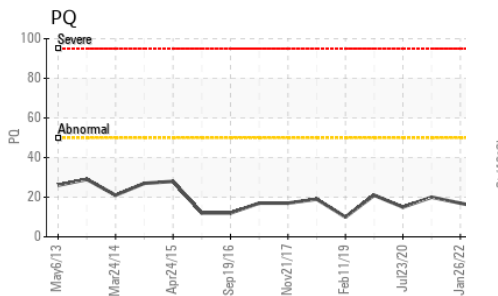
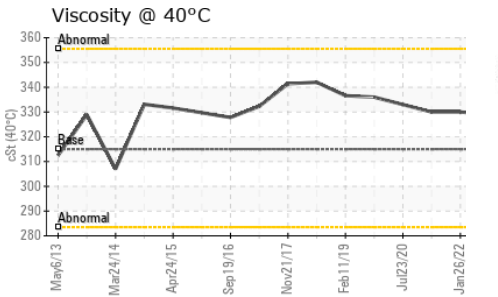
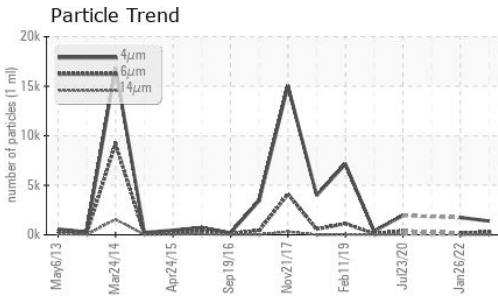
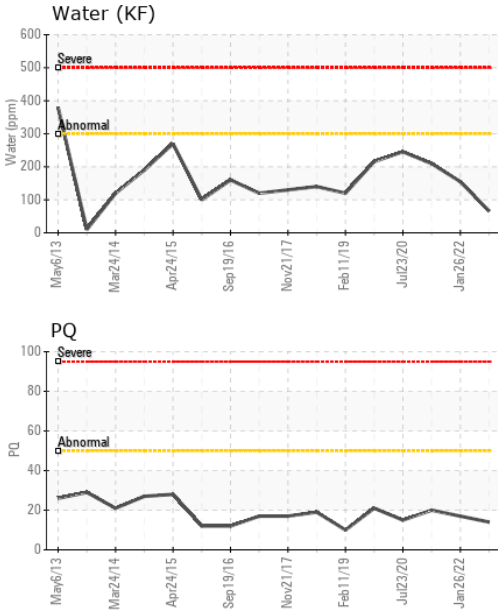
	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	25	<b>2</b>	0
Barium	ppm	ASTM D5185m		<b>0</b>	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Calcium	ppm	ASTM D5185m	17	<b>2</b>	6
Phosphorus	ppm	ASTM D5185m	200	<b>173</b>	183
Zinc	ppm	ASTM D5185m		<b>16</b>	18
Sulfur	ppm	ASTM D5185m	5000	<b>5693</b>	4305

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>15	<b>0</b>	0
Sodium	ppm	ASTM D5185m		<b>3</b>	1
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	0
Water	%	ASTM D6304	>0.03	<b>0.006</b>	0.015
ppm Water	ppm	ASTM D6304	>300	<b>65.8</b>	154.9

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>1392</b>	1747	---
Particles >6µm	ASTM D7647	>5000	<b>262</b>	194	---
Particles >14µm	ASTM D7647	>640	<b>11</b>	14	---
Particles >21µm	ASTM D7647	>160	<b>1</b>	3	---
Particles >38µm	ASTM D7647	>40	<b>0</b>	0	---
Particles >71µm	ASTM D7647	>10	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>--/19/16	<b>18/15/11</b>	18/15/11	---

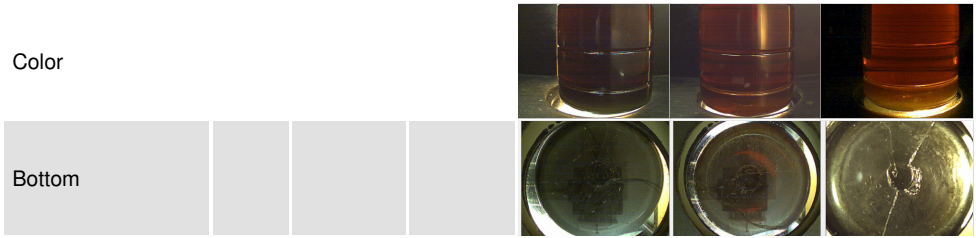


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.9	<b>0.92</b>	0.96	0.977

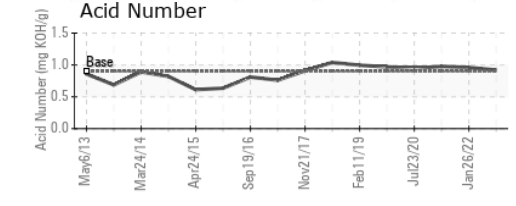
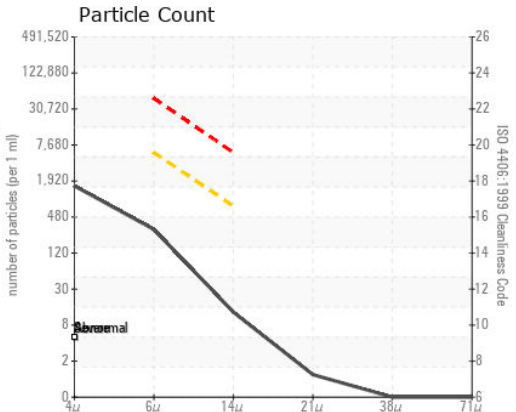
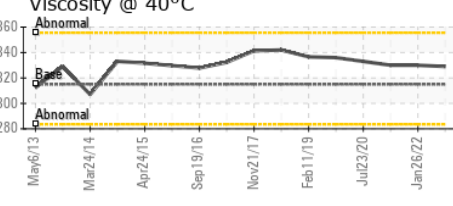
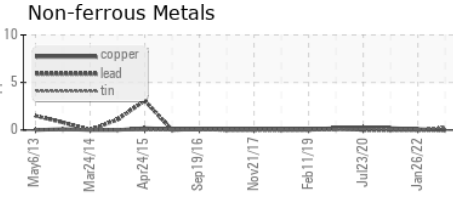
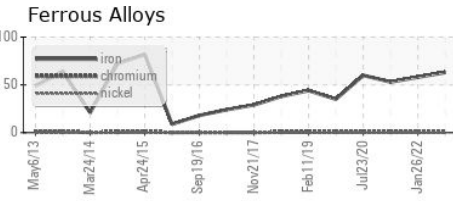
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	▲ MODER
Debris	scalar	*Visual	NONE	<b>NONE</b>	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>329</b>	330	330

SAMPLE IMAGES		method	limit/base	current	history1	history2
---------------	--	--------	------------	---------	----------	----------



## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0804460 **Received** : 26 May 2023  
**Lab Number** : 05857917 **Diagnosed** : 30 May 2023  
**Unique Number** : 10492382 **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

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: x:  
 F: x: