



# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**AZURE SKY [200007684]**

Machine Id  
**T-58**

Component  
**Wind Turbine Gearbox**

Fluid  
**FUCHS RENOLIN UNISYN CLP 320 (650 LTR)**

## DIAGNOSIS

### ▲ Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### ▲ Contamination

There is a high amount of particulates present 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>NX06054811</b>	---	---
Sample Date	Client Info	<b>07 Jan 2024</b>	---	---
Machine Age	hrs	<b>0</b>	---	---
Oil Age	hrs	<b>0</b>	---	---
Oil Changed	Client Info	<b>Not Chngd</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2		
PQ	ASTM D8184	>40	<b>14</b>	---	---	
Iron	ppm	ASTM D5185m	>55	<b>6</b>	---	---
Chromium	ppm	ASTM D5185m	>2	<b>0</b>	---	---
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	---	---
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	---	---
Silver	ppm	ASTM D5185m		<b>0</b>	---	---
Aluminum	ppm	ASTM D5185m	>15	<b>0</b>	---	---
Lead	ppm	ASTM D5185m	>3	<b>&lt;1</b>	---	---
Copper	ppm	ASTM D5185m	>7	<b>0</b>	---	---
Tin	ppm	ASTM D5185m	>3	<b>0</b>	---	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	---	---
Cadmium	ppm	ASTM D5185m		<b>0</b>	---	---

## ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		<b>6</b>	---	---
Barium	ppm	ASTM D5185m		<b>0</b>	---	---
Molybdenum	ppm	ASTM D5185m		<b>0</b>	---	---
Manganese	ppm	ASTM D5185m		<b>0</b>	---	---
Magnesium	ppm	ASTM D5185m		<b>0</b>	---	---
Calcium	ppm	ASTM D5185m		<b>15</b>	---	---
Phosphorus	ppm	ASTM D5185m		<b>197</b>	---	---
Zinc	ppm	ASTM D5185m		<b>0</b>	---	---
Sulfur	ppm	ASTM D5185m		<b>4667</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>35	<b>&lt;1</b>	---	---
Sodium	ppm	ASTM D5185m		<b>5</b>	---	---
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	---	---
Water	%	ASTM D6304	>0.02	<b>0.003</b>	---	---
ppm Water	ppm	ASTM D6304	>200	<b>40</b>	---	---

## FLUID CLEANLINESS

method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647		<b>4071</b>	---	---
Particles >6µm	ASTM D7647	>320	<b>▲ 1468</b>	---	---
Particles >14µm	ASTM D7647	>40	<b>▲ 162</b>	---	---
Particles >21µm	ASTM D7647	>10	<b>▲ 31</b>	---	---
Particles >38µm	ASTM D7647	>3	<b>0</b>	---	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	---	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	<b>▲ 19/18/15</b>	---	---

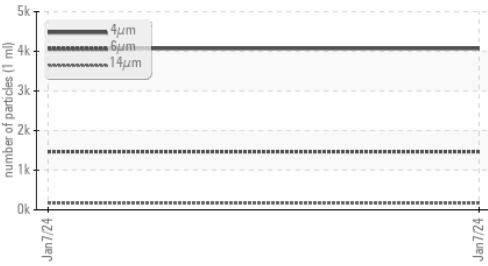
## FLUID DEGRADATION

method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	<b>0.36</b>	---	---

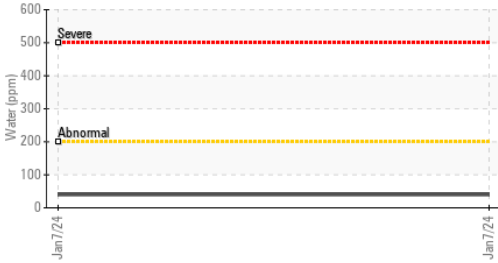


# OIL ANALYSIS REPORT

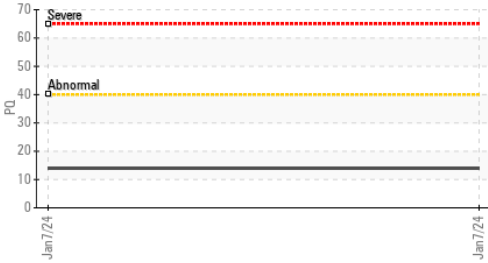
### ▲ Particle Trend



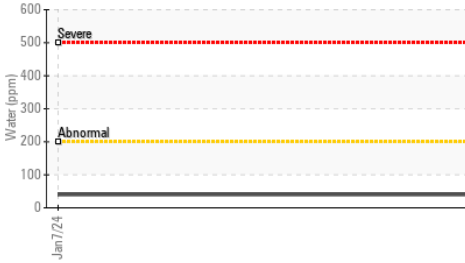
### Water (KF)



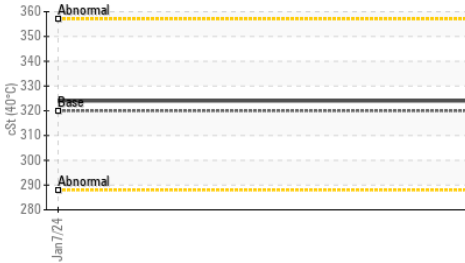
### PQ



### Water (KF)



### Viscosity @ 40°C



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.02	NEG	---
Free Water	scalar	*Visual		NEG	---

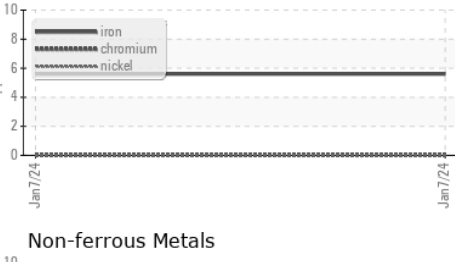
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	<b>324</b>	---

### SAMPLE IMAGES

method	limit/base	current	history1	history2
Color			no image	no image
Bottom			no image	no image

### GRAPHS

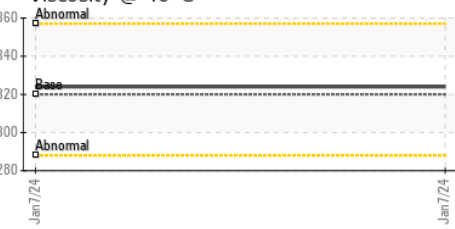
#### Ferrous Alloys



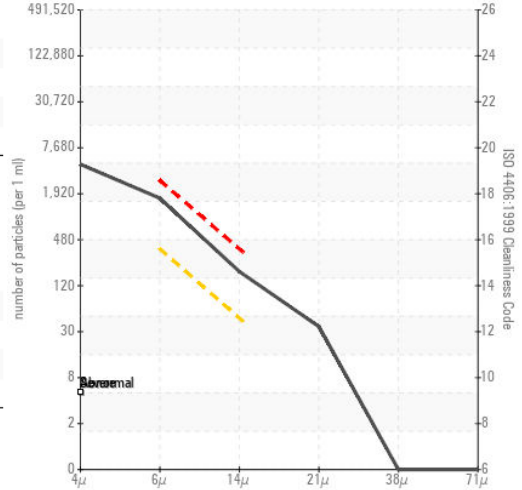
#### Non-ferrous Metals



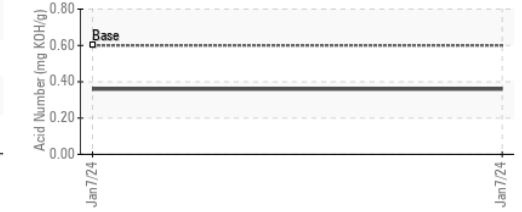
#### Viscosity @ 40°C



#### ▲ Particle Count



#### Acid Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX06054811 **Received** : 08 Jan 2024  
**Lab Number** : 06054811 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10820760 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**NORDEX USA - Chicago**  
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 US 60606  
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 T: (312)386-4124  
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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)