



# OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area  
**AZURE SKY [200007684]**  
Machine Id  
**T-47 - K-4**

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>NX06054798</b>	---	---
Sample Date	Client Info	<b>27 Sep 2023</b>	---	---
Machine Age	hrs Client Info	<b>0</b>	---	---
Oil Age	hrs Client Info	<b>0</b>	---	---
Oil Changed	Client Info	<b>N/A</b>	---	---
Sample Status		<b>ABNORMAL</b>	---	---

## WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184 >40	<b>18</b>	---	---
Iron	ppm ASTM D5185m >55	<b>18</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>1</b>	---	---
Copper	ppm ASTM D5185m >7	<b>&lt;1</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>13</b>	---	---
Phosphorus	ppm ASTM D5185m	<b>206</b>	---	---
Zinc	ppm ASTM D5185m	<b>0</b>	---	---
Sulfur	ppm ASTM D5185m	<b>4767</b>	---	---

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	<b>10</b>	---	---
Sodium	ppm ASTM D5185m	<b>5</b>	---	---
Potassium	ppm ASTM D5185m >20	<b>&lt;1</b>	---	---
Water	% ASTM D6304 >0.02	<b>0.002</b>	---	---
ppm Water	ppm ASTM D6304 >200	<b>24</b>	---	---

## FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	<b>3838</b>	---	---
Particles >6µm	ASTM D7647 >320	<b>▲ 1185</b>	---	---
Particles >14µm	ASTM D7647 >40	<b>▲ 162</b>	---	---
Particles >21µm	ASTM D7647 >10	<b>▲ 37</b>	---	---
Particles >38µm	ASTM D7647 >3	<b>2</b>	---	---
Particles >71µm	ASTM D7647 >3	<b>1</b>	---	---
Oil Cleanliness	ISO 4406 (c) >--/15/12	<b>▲ 19/17/15</b>	---	---

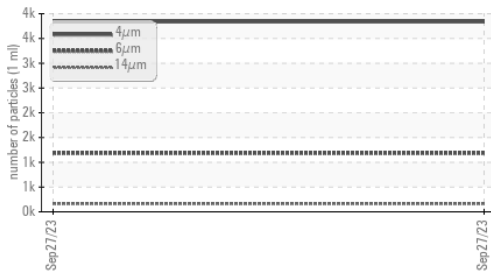
## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.6	<b>0.38</b>	---	---

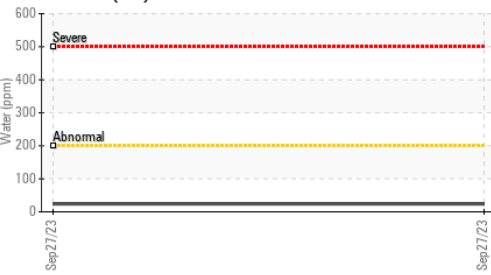


# OIL ANALYSIS REPORT

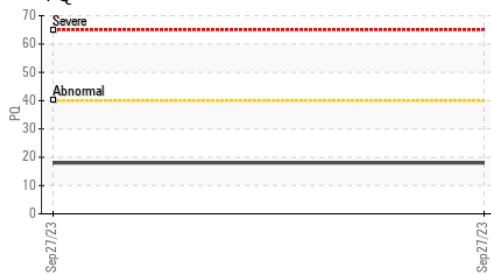
### ▲ Particle Trend



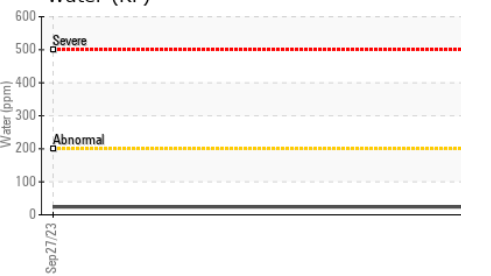
### Water (KF)



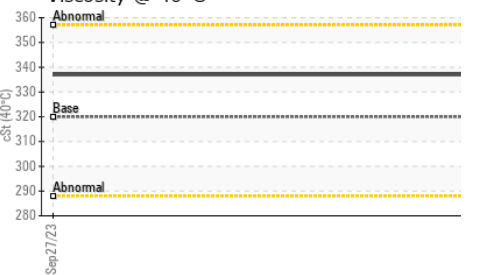
### PQ



### 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	337	---	---

### SAMPLE IMAGES

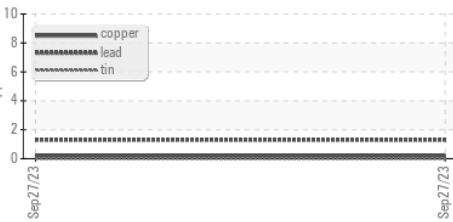
method	limit/base	current	history1	history2	
Color				no image	no image
Bottom				no image	no image

### GRAPHS

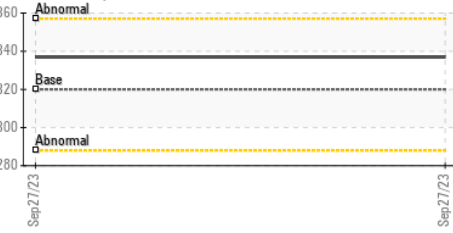
#### Ferrous Alloys



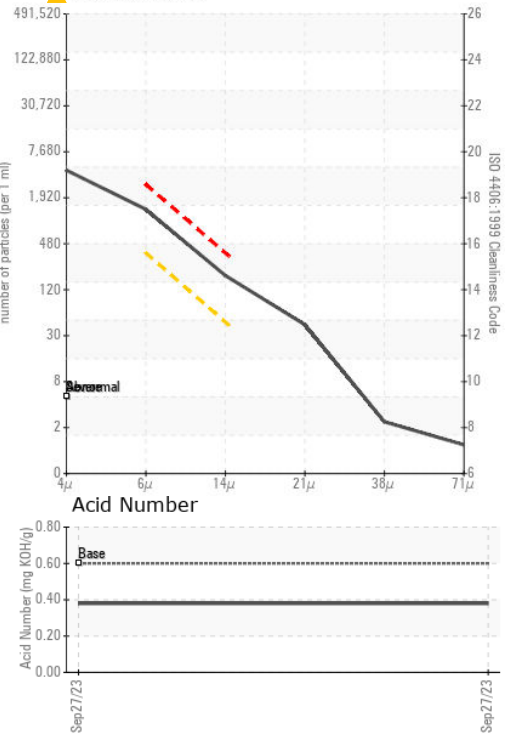
#### Non-ferrous Metals



#### Viscosity @ 40°C



#### ▲ Particle Count



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX06054798 **Received** : 08 Jan 2024  
**Lab Number** : 06054798 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10820747 **Diagnostician** : Don Baldrige  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**NORDEX USA - Chicago**  
 300 SOUTH WACKER DRIVE, SUITE 1500  
 CHICAGO, IL  
 US 60606  
 Contact: DEVIN LINEHAN  
 DLinehan@nordex-online.com  
 T: (312)386-4124  
 F: (312)386-7102

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)