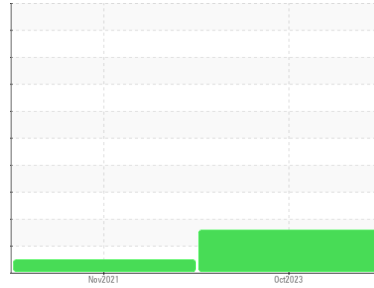




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area  
**MARYNEAL [200006807]**  
 Machine Id  
**87022 SITE 1**

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>NX06054852</b>	NX009577	---
Sample Date	Client Info		<b>16 Oct 2023</b>	22 Nov 2021	---
Machine Age	hrs	Client Info	<b>0</b>	0	---
Oil Age	hrs	Client Info	<b>0</b>	0	---
Oil Changed	Client Info		<b>N/A</b>	N/A	---
Sample Status			<b>ABNORMAL</b>	NORMAL	---

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>40	<b>11</b>	17	---
Iron	ppm	ASTM D5185m	>55	<b>11</b>	9
Chromium	ppm	ASTM D5185m	>2	<b>0</b>	<1
Nickel	ppm	ASTM D5185m	>2	<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	>15	<b>0</b>	11
Lead	ppm	ASTM D5185m	>3	<b>0</b>	<1
Copper	ppm	ASTM D5185m	>7	<b>0</b>	<1
Tin	ppm	ASTM D5185m	>3	<b>0</b>	<1
Antimony	ppm	ASTM D5185m	>3	---	0
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		<b>2</b>	77
Barium	ppm	ASTM D5185m		<b>0</b>	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0
Manganese	ppm	ASTM D5185m		<b>0</b>	<1
Magnesium	ppm	ASTM D5185m		<b>0</b>	0
Calcium	ppm	ASTM D5185m		<b>11</b>	19
Phosphorus	ppm	ASTM D5185m		<b>182</b>	196
Zinc	ppm	ASTM D5185m		<b>0</b>	0
Sulfur	ppm	ASTM D5185m		<b>4684</b>	4136

## CONTAMINANTS

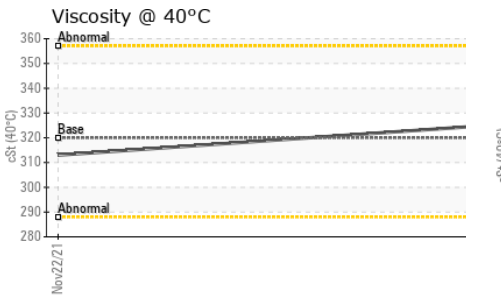
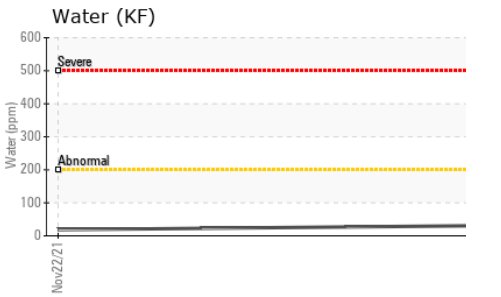
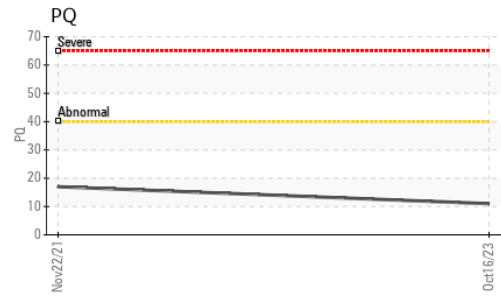
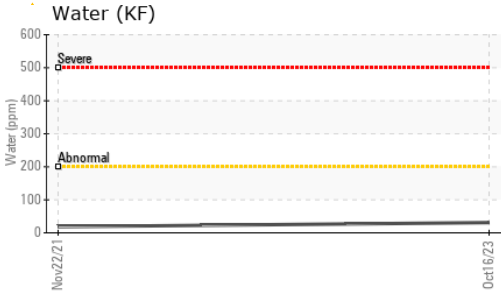
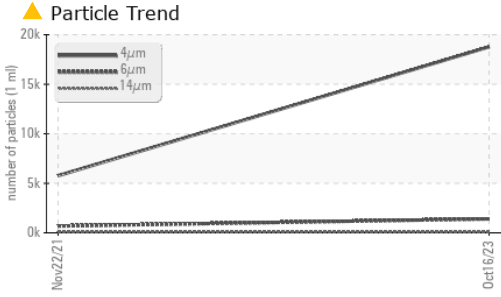
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	<b>6</b>	10
Sodium	ppm	ASTM D5185m		<b>4</b>	0
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1
Water	%	ASTM D6304	>0.02	<b>0.003</b>	0.002
ppm Water	ppm	ASTM D6304	>200	<b>31</b>	18.5

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>18778</b>	5767	---
Particles >6µm	ASTM D7647	>320	<b>▲ 1407</b>	684	---
Particles >14µm	ASTM D7647	>40	<b>▲ 70</b>	75	---
Particles >21µm	ASTM D7647	>10	<b>▲ 15</b>	27	---
Particles >38µm	ASTM D7647	>3	<b>1</b>	1	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	<b>▲ 21/18/13</b>	20/17/13	---



# OIL ANALYSIS REPORT



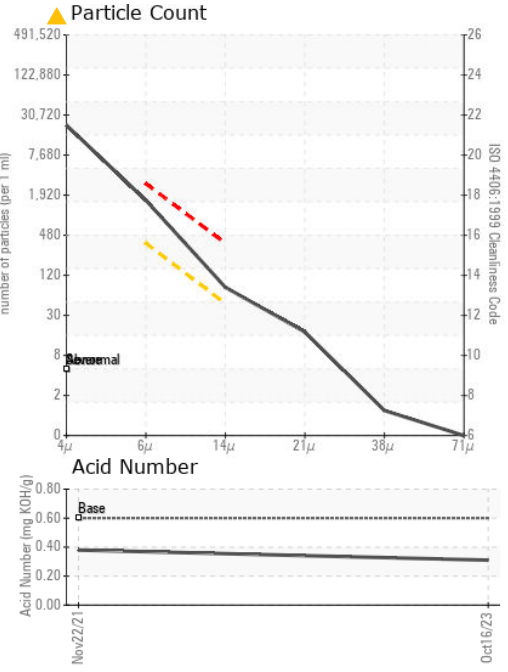
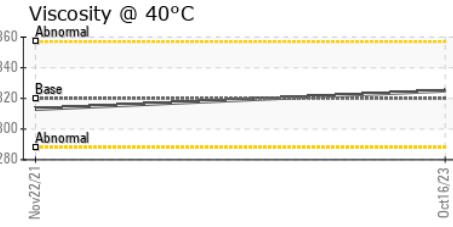
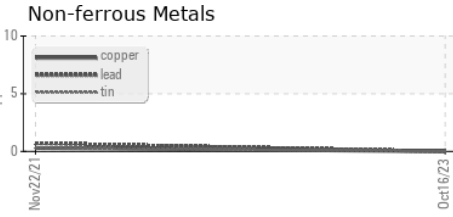
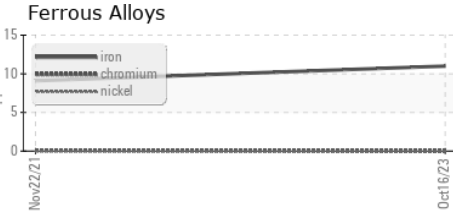
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	<b>0.31</b>	0.38	---

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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	<b>325</b>	313	---

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						<i>no image</i>
Bottom						<i>no image</i>

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX06054852 **Received** : 08 Jan 2024  
**Lab Number** : 06054852 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10820801 **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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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)