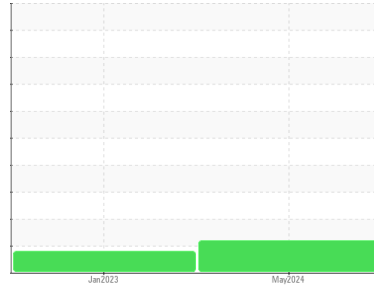




# OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

**BLACKJACK CREEK [200007683]**

Machine Id

**18WEA88412 - D-03 (S/N W-122244)**

Component

**Wind Turbine Gearbox**

Fluid

**FUCHS RENOLIN UNISYN CLP 320 (--- LTR)**

## DIAGNOSIS

### Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of silt (particulates < 14 microns in size) 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>NX015750</b>	NX011567	---
Sample Date	Client Info		<b>16 May 2024</b>	27 Jan 2023	---
Machine Age	hrs	Client Info	<b>0</b>	1547	---
Oil Age	hrs	Client Info	<b>0</b>	0	---
Oil Changed	Client Info		<b>N/A</b>	N/A	---
Sample Status			<b>ABNORMAL</b>	ABNORMAL	---

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>40	<b>20</b>	15	---
Iron	ppm	ASTM D5185m	>55	<b>36</b>	27
Chromium	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0
Titanium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0
Silver	ppm	ASTM D5185m		<b>0</b>	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	0
Lead	ppm	ASTM D5185m	>3	<b>2</b>	<1
Copper	ppm	ASTM D5185m	>7	<b>&lt;1</b>	<1
Tin	ppm	ASTM D5185m	>3	<b>0</b>	<1
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>4</b>	4
Barium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Molybdenum	ppm	ASTM D5185m		<b>0</b>	0
Manganese	ppm	ASTM D5185m		<b>1</b>	<1
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>	0
Calcium	ppm	ASTM D5185m		<b>14</b>	19
Phosphorus	ppm	ASTM D5185m		<b>205</b>	203
Zinc	ppm	ASTM D5185m		<b>16</b>	0
Sulfur	ppm	ASTM D5185m		<b>4559</b>	5278

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	<b>13</b>	8
Sodium	ppm	ASTM D5185m		<b>2</b>	2
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0
Water	%	ASTM D6304	>0.02	<b>0.001</b>	0.016
ppm Water	ppm	ASTM D6304	>200	<b>10</b>	167.5

## FLUID CLEANLINESS

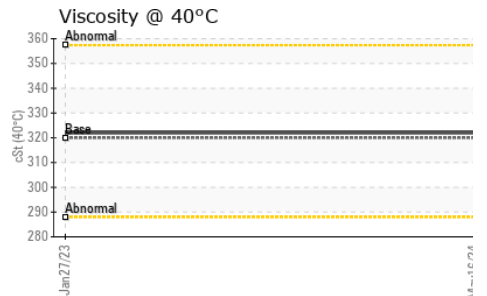
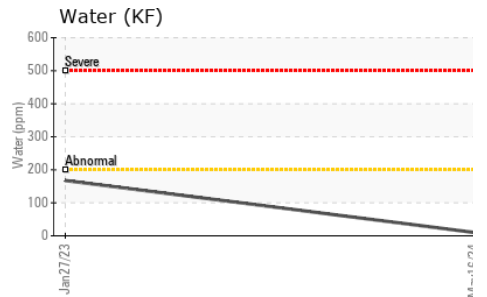
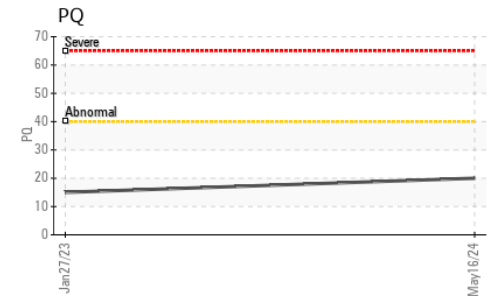
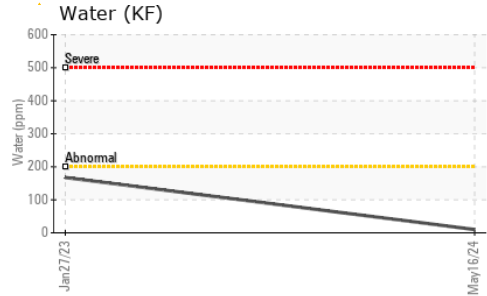
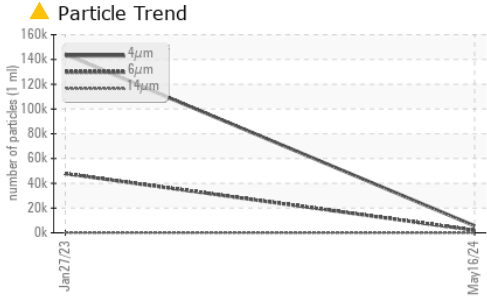
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>5625</b>	144151	---
Particles >6µm	ASTM D7647	>320	<b>2043</b>	47782	---
Particles >14µm	ASTM D7647	>40	<b>62</b>	147	---
Particles >21µm	ASTM D7647	>10	<b>5</b>	5	---
Particles >38µm	ASTM D7647	>3	<b>0</b>	1	---
Particles >71µm	ASTM D7647	>3	<b>0</b>	0	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	<b>20/18/13</b>	24/23/14	---

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	<b>0.38</b>	0.37



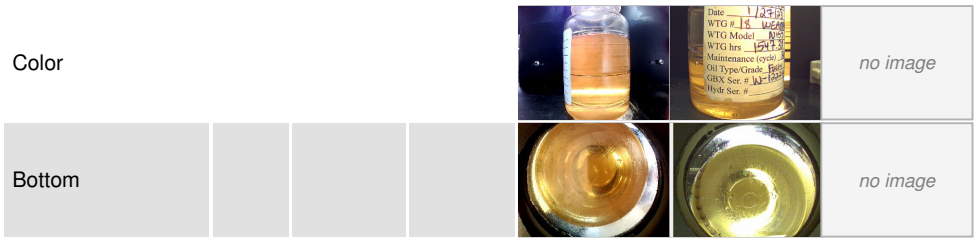
# OIL ANALYSIS REPORT



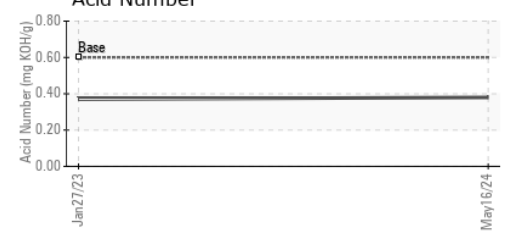
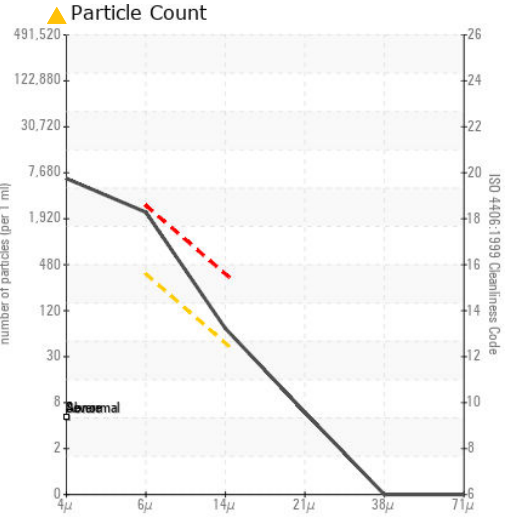
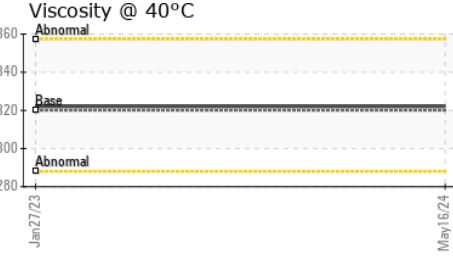
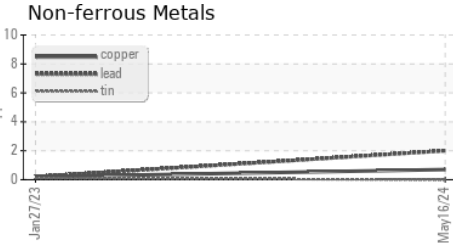
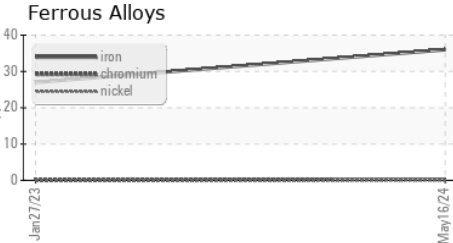
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	LIGHT	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	322	---

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



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX015750      **Received** : 14 Jun 2024  
**Lab Number** : 06210773      **Tested** : 18 Jun 2024  
**Unique Number** : 11083637      **Diagnosed** : 18 Jun 2024 - Angela Borella  
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

**NORDEX USA - Chicago**  
 300 SOUTH WACKER DRIVE, SUITE 1500  
 CHICAGO, IL  
 US 60606

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)