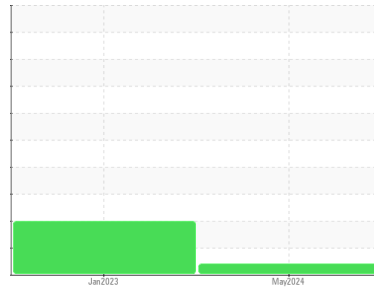




# OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS



Area  
**BLACKJACK CREEK [200007683]**  
 Machine Id  
**WEA88419 - I-01 (S/N 11628066)**  
 Component  
**Wind Turbine Gearbox**  
 Fluid  
**FUCHS RENOLIN UNISYN CLP 320 (--- LTR)**

## DIAGNOSIS

### Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

### Wear

All component wear rates are normal.

### Contamination

Moderate concentration of visible dirt/debris present in the oil.

### Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

## SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	<b>NX015755</b>	NX011541	---
Sample Date	Client Info	<b>03 May 2024</b>	03 Jan 2023	---
Machine Age	hrs	Client Info	0	2940
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>18</b>	12
Iron	ppm	ASTM D5185m	>55	<b>43</b>
Chromium	ppm	ASTM D5185m	>2	<b>&lt;1</b>
Nickel	ppm	ASTM D5185m	>2	<b>&lt;1</b>
Titanium	ppm	ASTM D5185m	>10	<b>&lt;1</b>
Silver	ppm	ASTM D5185m		<b>0</b>
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>
Lead	ppm	ASTM D5185m	>3	<b>3</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>4</b>
Barium	ppm	ASTM D5185m		<b>&lt;1</b>
Molybdenum	ppm	ASTM D5185m		<b>0</b>
Manganese	ppm	ASTM D5185m		<b>1</b>
Magnesium	ppm	ASTM D5185m		<b>&lt;1</b>
Calcium	ppm	ASTM D5185m		<b>14</b>
Phosphorus	ppm	ASTM D5185m		<b>213</b>
Zinc	ppm	ASTM D5185m		<b>13</b>
Sulfur	ppm	ASTM D5185m		<b>4743</b>

## CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	<b>14</b>
Sodium	ppm	ASTM D5185m		<b>2</b>
Potassium	ppm	ASTM D5185m	>20	<b>2</b>
Water	%	ASTM D6304	>0.02	<b>0.001</b>
ppm Water	ppm	ASTM D6304	>200	<b>8</b>

## FLUID CLEANLINESS

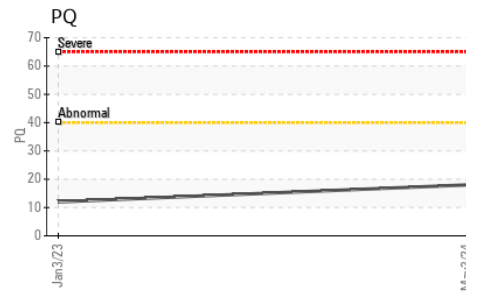
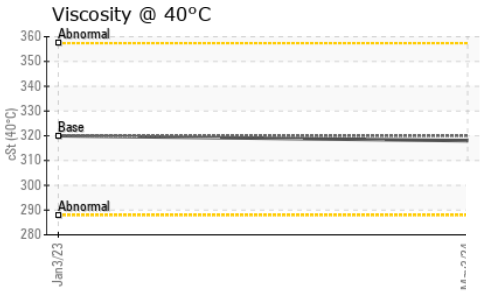
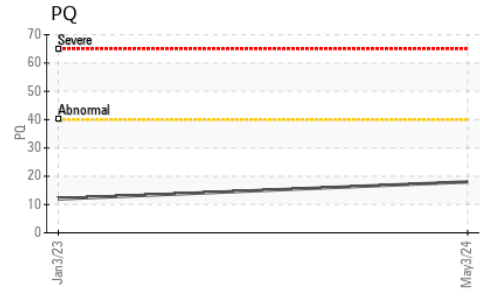
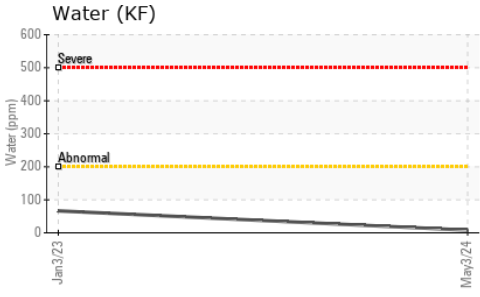
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		---	28223
Particles >6µm	ASTM D7647	>320	---	<b>▲ 10429</b>
Particles >14µm	ASTM D7647	>40	---	<b>▲ 1345</b>
Particles >21µm	ASTM D7647	>10	---	<b>▲ 304</b>
Particles >38µm	ASTM D7647	>3	---	<b>▲ 16</b>
Particles >71µm	ASTM D7647	>3	---	<b>0</b>
Oil Cleanliness	ISO 4406 (c)	>--/15/12	---	<b>▲ 22/21/18</b>

## FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	<b>0.38</b>
				0.41



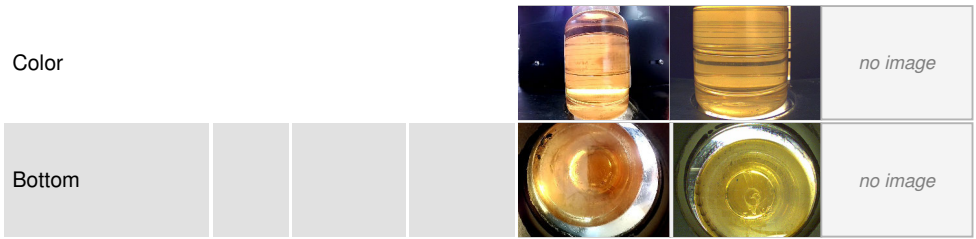
# OIL ANALYSIS REPORT



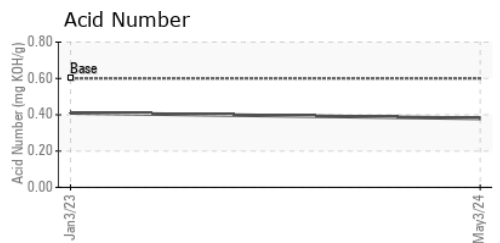
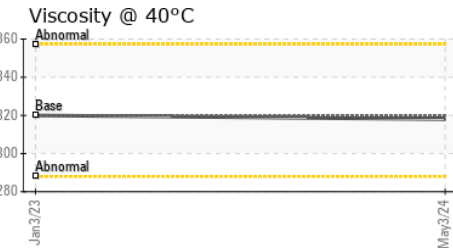
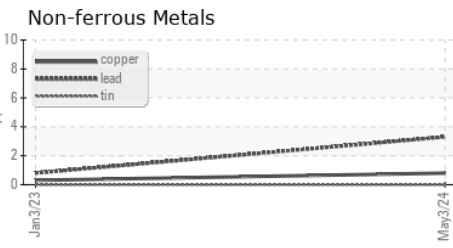
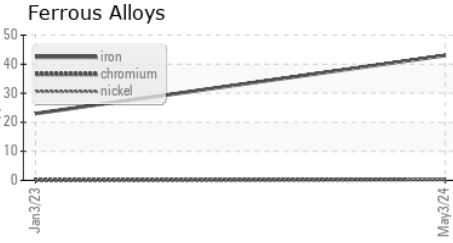
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	LIGHT	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	▲ MODER	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	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	<b>318</b>	320	---

### SAMPLE IMAGES



### GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX015755      **Received** : 14 Jun 2024  
**Lab Number** : **06210774**      **Tested** : 19 Jun 2024  
**Unique Number** : 11083638      **Diagnosed** : 19 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  
 Contact: DEVIN LINEHAN  
 DLinehan@nordex-online.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)