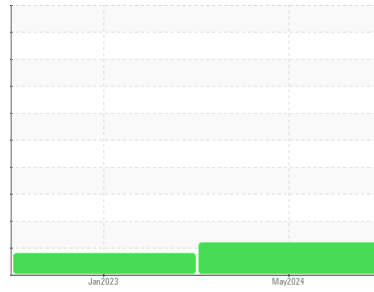




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area

BLACKJACK CREEK [200007683]

Machine Id

27WEA88447 - H-02 (S/N W-122434)

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.

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		NX015753	NX011509	---
Sample Date	Client Info		08 May 2024	26 Jan 2023	---
Machine Age	hrs	Client Info	0	1672	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ABNORMAL	ABNORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>40	15	15	---
Iron	ppm	ASTM D5185m	>55	46	30
Chromium	ppm	ASTM D5185m	>2	<1	0
Nickel	ppm	ASTM D5185m	>2	<1	0
Titanium	ppm	ASTM D5185m	>10	<1	0
Silver	ppm	ASTM D5185m		0	0
Aluminum	ppm	ASTM D5185m	>15	2	0
Lead	ppm	ASTM D5185m	>3	1	0
Copper	ppm	ASTM D5185m	>7	<1	0
Tin	ppm	ASTM D5185m	>3	0	0
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		3	4
Barium	ppm	ASTM D5185m		<1	0
Molybdenum	ppm	ASTM D5185m		0	0
Manganese	ppm	ASTM D5185m		1	<1
Magnesium	ppm	ASTM D5185m		<1	0
Calcium	ppm	ASTM D5185m		9	15
Phosphorus	ppm	ASTM D5185m		205	197
Zinc	ppm	ASTM D5185m		15	0
Sulfur	ppm	ASTM D5185m		4399	5027

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	15	6
Sodium	ppm	ASTM D5185m		3	1
Potassium	ppm	ASTM D5185m	>20	2	0
Water	%	ASTM D6304	>0.02	0.002	0.008
ppm Water	ppm	ASTM D6304	>200	17	89.7

FLUID CLEANLINESS

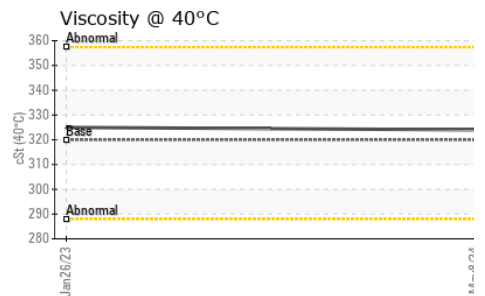
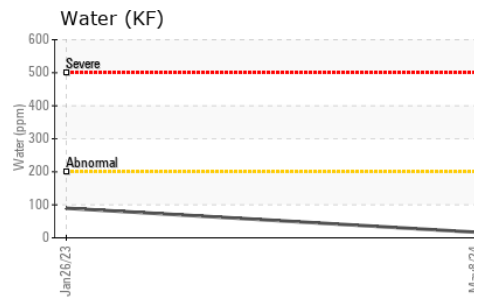
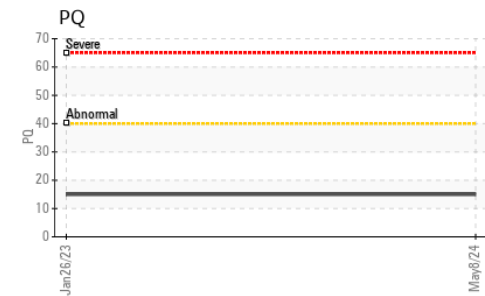
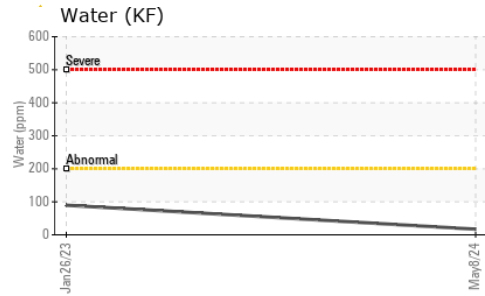
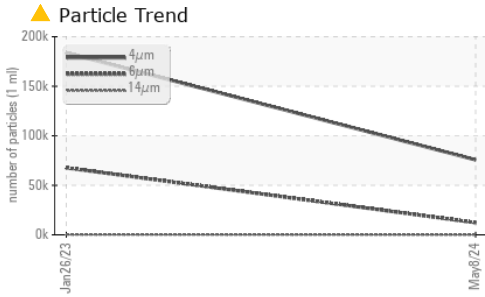
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		75681	183752	---
Particles >6µm	ASTM D7647	>320	▲ 12295	▲ 67659	---
Particles >14µm	ASTM D7647	>40	● 68	270	---
Particles >21µm	ASTM D7647	>10	3	9	---
Particles >38µm	ASTM D7647	>3	0	1	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	▲ 23/21/13	▲ 25/23/15	---

FLUID DEGRADATION

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



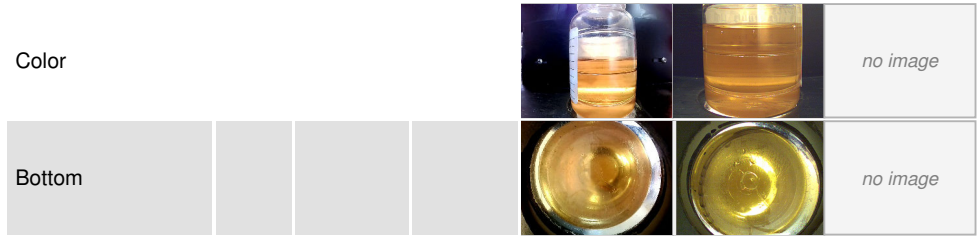
OIL ANALYSIS REPORT



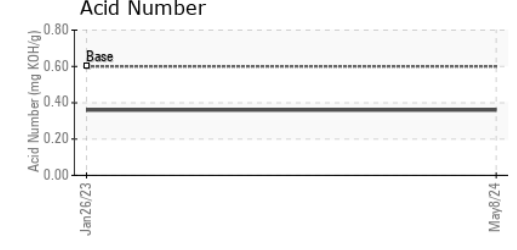
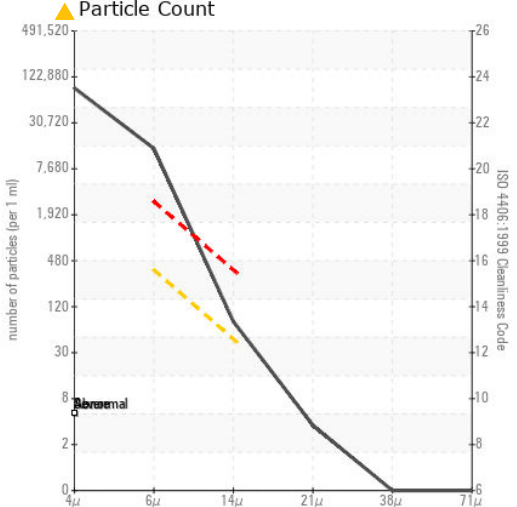
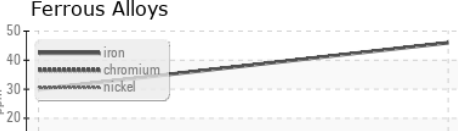
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	324	325

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX015753
Lab Number : 06210761
Unique Number : 11083625
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.

Contact: DEVIN LINEHAN
 DLinehan@nordex-online.com

* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

T: (312)386-4124

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

F: (312)386-7102