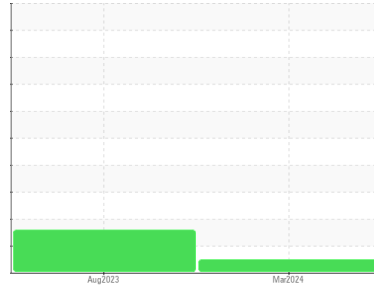




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
EL SAUZ [200007686]
 Machine Id
K07WEA90056 (S/N EWP-03542)
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN UNISYN CLP 320 (500 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

The amount and size of particulates present in the system are acceptable.

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	NX015067	NX05940725	---
Sample Date	Client Info	07 Mar 2024	23 Aug 2023	---
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	---
Sample Status		NORMAL	ABNORMAL	---

WEAR METALS

method	limit/base	current	history1	history2	
PQ	ASTM D8184	>50	20	15	
Iron	ppm	ASTM D5185m	>30	4	8
Chromium	ppm	ASTM D5185m	>3	0	0
Nickel	ppm	ASTM D5185m	>3	0	0
Titanium	ppm	ASTM D5185m	>10	0	0
Silver	ppm	ASTM D5185m		0	0
Aluminum	ppm	ASTM D5185m	>30	<1	0
Lead	ppm	ASTM D5185m	>15	2	2
Copper	ppm	ASTM D5185m	>10	0	<1
Tin	ppm	ASTM D5185m	>10	<1	0
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	0

ADDITIVES

method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m		1	4
Barium	ppm	ASTM D5185m		0	2
Molybdenum	ppm	ASTM D5185m		0	<1
Manganese	ppm	ASTM D5185m		0	<1
Magnesium	ppm	ASTM D5185m		0	<1
Calcium	ppm	ASTM D5185m		9	27
Phosphorus	ppm	ASTM D5185m		208	272
Zinc	ppm	ASTM D5185m		0	3
Sulfur	ppm	ASTM D5185m		5948	6464

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+15	3	5
Sodium	ppm	ASTM D5185m		0	0
Potassium	ppm	ASTM D5185m	>20	0	<1
Water	%	ASTM D6304	>0.02	0.006	0.011
ppm Water	ppm	ASTM D6304	>200	60	114.8

FLUID CLEANLINESS

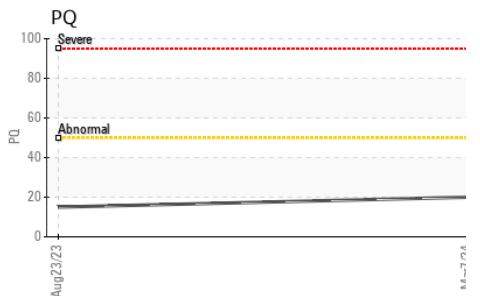
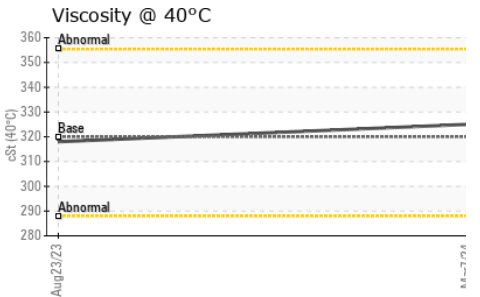
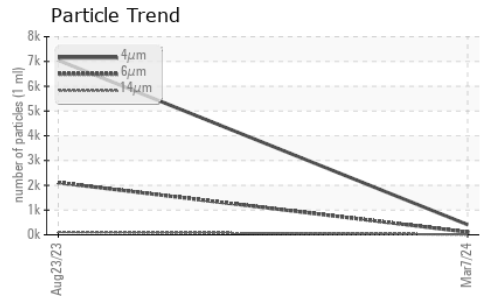
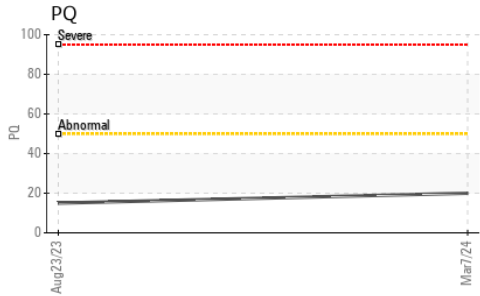
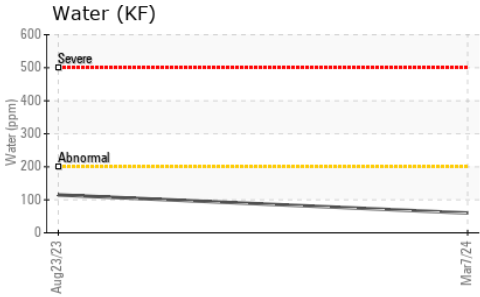
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		409	7049
Particles >6µm	ASTM D7647	>320	112	▲ 2106
Particles >14µm	ASTM D7647	>40	11	▲ 115
Particles >21µm	ASTM D7647	>10	2	▲ 20
Particles >38µm	ASTM D7647	>3	0	2
Particles >71µm	ASTM D7647	>3	0	2
Oil Cleanliness	ISO 4406 (c)	>--/15/12	16/14/11	▲ 20/18/14

FLUID DEGRADATION

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



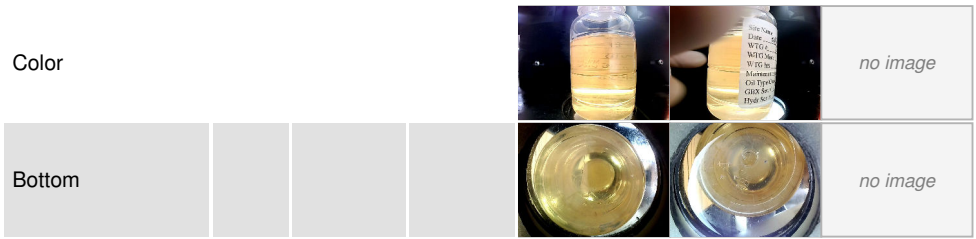
OIL ANALYSIS REPORT



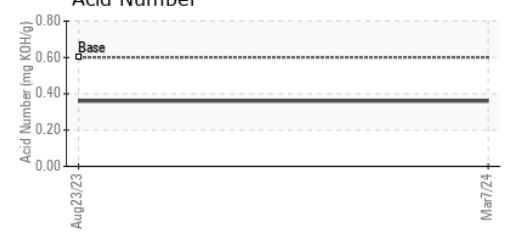
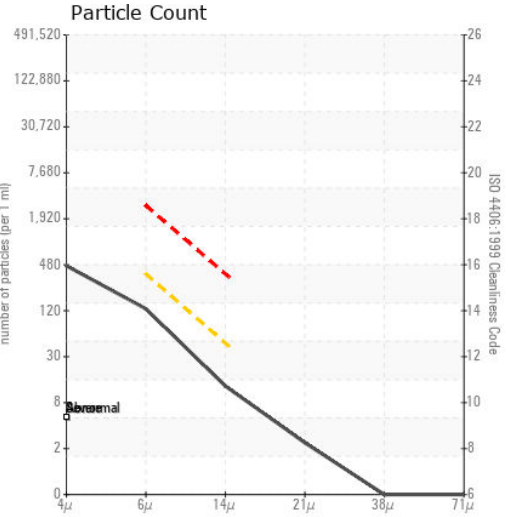
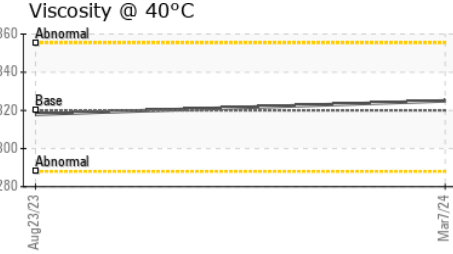
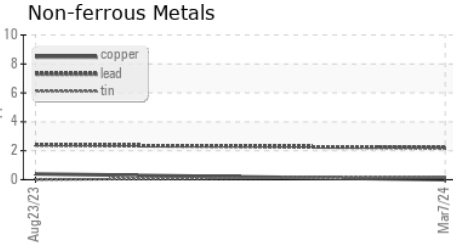
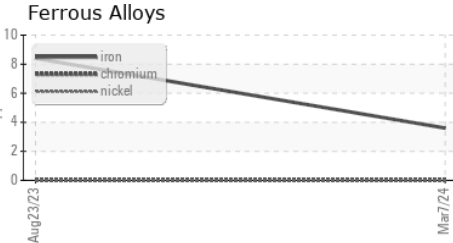
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	325	318	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX015067 **Received** : 19 Mar 2024
Lab Number : **06123089** **Tested** : 20 Mar 2024
Unique Number : 10937240 **Diagnosed** : 21 Mar 2024 - Angela Borella
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

NORDEX USA - Chicago
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 CHICAGO, IL
 US 60606
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 DLinehan@nordex-online.com
 T: (312)386-4124
 F: (312)386-7102

Certificate L2367
 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)