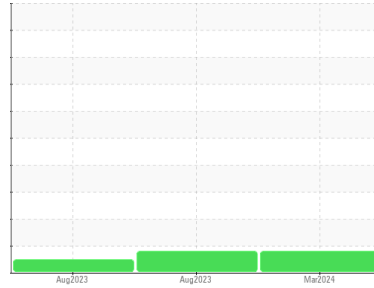




OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
EL SAUZ [200007686]
 Machine Id
D03WEA90047 (S/N W-122936)
 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 acceptable for the time in service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	NX015075	NX014551	NX014508
Sample Date	Client Info	11 Mar 2024	19 Aug 2023	09 Aug 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	N/A	N/A
Sample Status		ABNORMAL	ABNORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184 >40	17	12	16
Iron	ppm ASTM D5185m >55	22	18	18
Chromium	ppm ASTM D5185m >2	0	0	0
Nickel	ppm ASTM D5185m >2	0	0	0
Titanium	ppm ASTM D5185m >10	0	0	0
Silver	ppm ASTM D5185m	0	0	0
Aluminum	ppm ASTM D5185m >15	0	0	0
Lead	ppm ASTM D5185m >3	<1	<1	<1
Copper	ppm ASTM D5185m >7	0	<1	0
Tin	ppm ASTM D5185m >3	<1	0	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	0	0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	1	2	2
Barium	ppm ASTM D5185m	0	2	2
Molybdenum	ppm ASTM D5185m	0	0	0
Manganese	ppm ASTM D5185m	<1	<1	<1
Magnesium	ppm ASTM D5185m	0	<1	<1
Calcium	ppm ASTM D5185m	7	19	17
Phosphorus	ppm ASTM D5185m	208	218	217
Zinc	ppm ASTM D5185m	0	7	6
Sulfur	ppm ASTM D5185m	5932	5376	5317

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	6	7	7
Sodium	ppm ASTM D5185m	0	0	0
Potassium	ppm ASTM D5185m >20	0	2	2
Water	% ASTM D6304 >0.02	0.003	0.008	0.003
ppm Water	ppm ASTM D6304 >200	39	80.9	35.5

FLUID CLEANLINESS

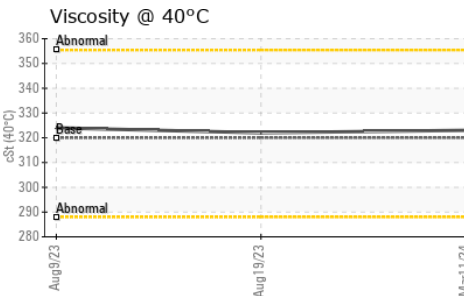
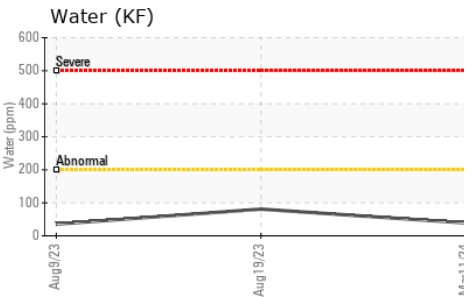
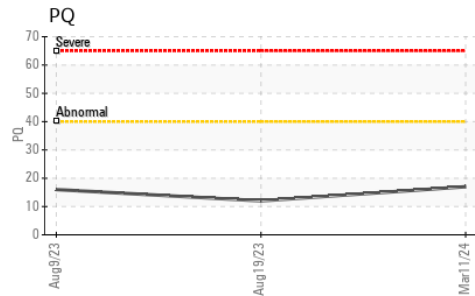
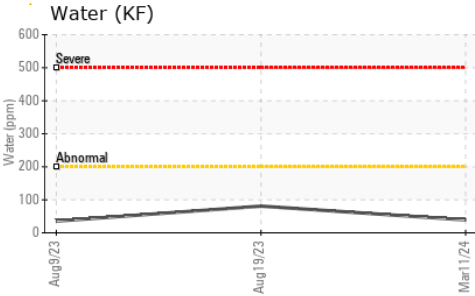
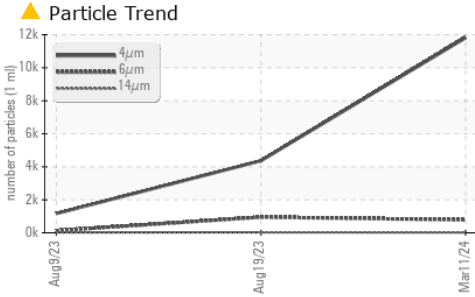
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	11821	4366	1165
Particles >6µm	ASTM D7647 >320	▲ 782	▲ 948	131
Particles >14µm	ASTM D7647 >40	21	29	22
Particles >21µm	ASTM D7647 >10	5	6	8
Particles >38µm	ASTM D7647 >3	0	1	0
Particles >71µm	ASTM D7647 >3	0	0	0
Oil Cleanliness	ISO 4406 (c) >--/15/12	▲ 21/17/12	▲ 19/17/12	17/14/12

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.6	0.34	0.36	0.39



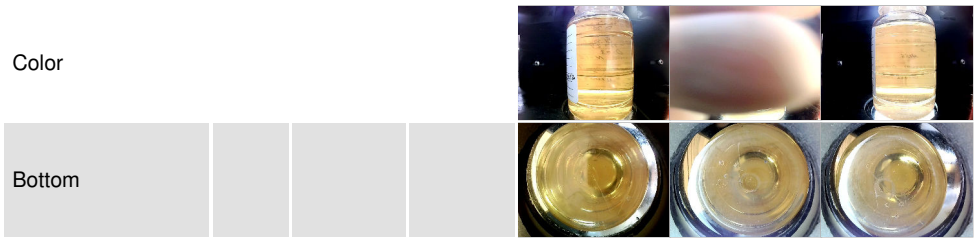
OIL ANALYSIS REPORT



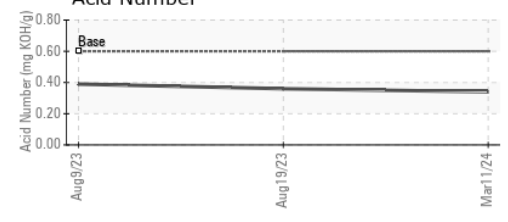
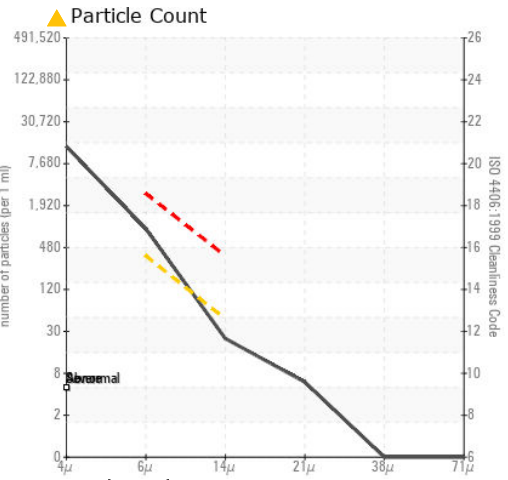
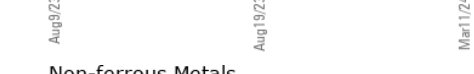
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 320	323	322	324

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX015075 **Received** : 19 Mar 2024
Lab Number : 06123084 **Tested** : 20 Mar 2024
Unique Number : 10937235 **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
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 F: (312)386-7102

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)