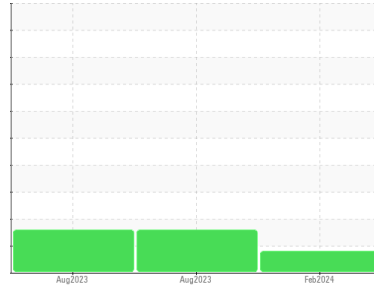




OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
EL SAUZ [200007686]
 Machine Id
E04WEA90030 (S/N W-122892)
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN UNISYN CLP 320 (--- LTR)

DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. 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	NX014647	NX014557	NX014518
Sample Date	Client Info	28 Feb 2024	16 Aug 2023	08 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	ABNORMAL

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184 >40	12	12	16
Iron	ppm ASTM D5185m >55	28	22	22
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	<1
Tin	ppm ASTM D5185m >3	0	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	1	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	5	17	16
Phosphorus	ppm ASTM D5185m	205	219	217
Zinc	ppm ASTM D5185m	0	7	7
Sulfur	ppm ASTM D5185m	5934	5237	5500

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >35	6	7	8
Sodium	ppm ASTM D5185m	0	0	0
Potassium	ppm ASTM D5185m >20	0	2	1
Water	% ASTM D6304 >0.02	0.003	0.008	0.002
ppm Water	ppm ASTM D6304 >200	35	87.2	18.2

FLUID CLEANLINESS

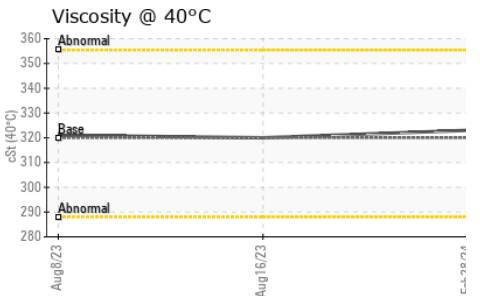
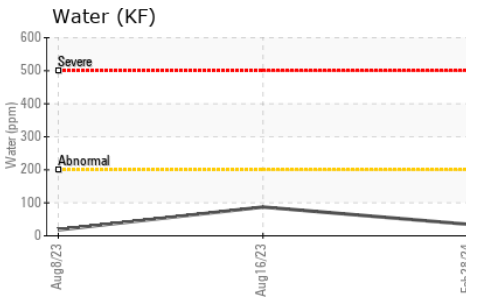
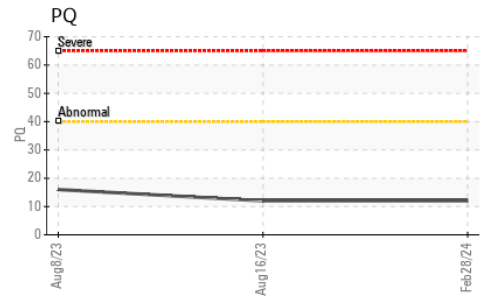
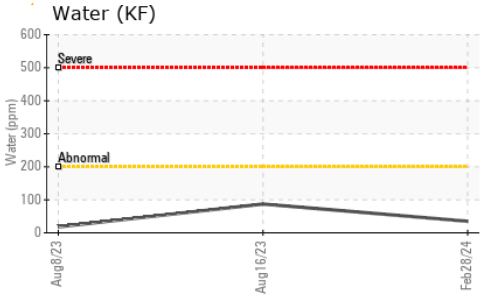
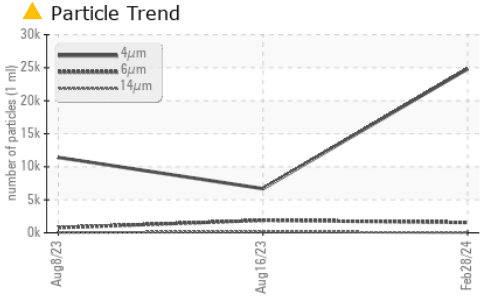
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	24834	6684	11413
Particles >6µm	ASTM D7647 >320	▲ 1560	▲ 1883	▲ 778
Particles >14µm	ASTM D7647 >40	18	▲ 150	▲ 43
Particles >21µm	ASTM D7647 >10	3	▲ 39	▲ 13
Particles >38µm	ASTM D7647 >3	0	1	1
Particles >71µm	ASTM D7647 >3	0	1	0
Oil Cleanliness	ISO 4406 (c) >--/15/12	▲ 22/18/11	▲ 20/18/14	▲ 21/17/13

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 0.6	0.33	0.36	0.38



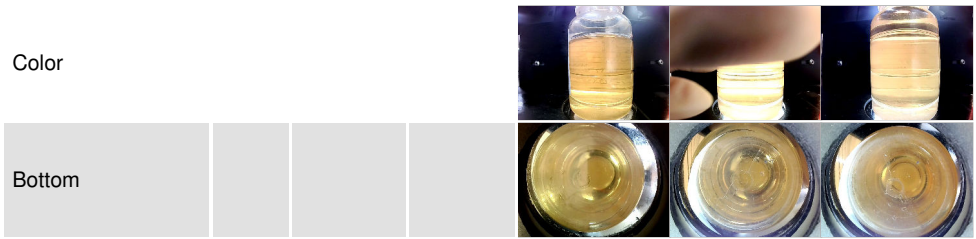
OIL ANALYSIS REPORT



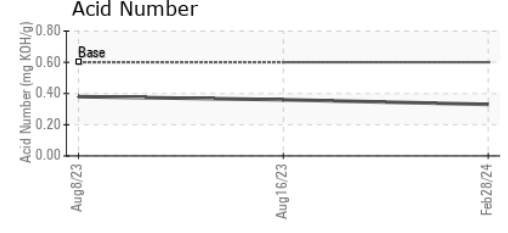
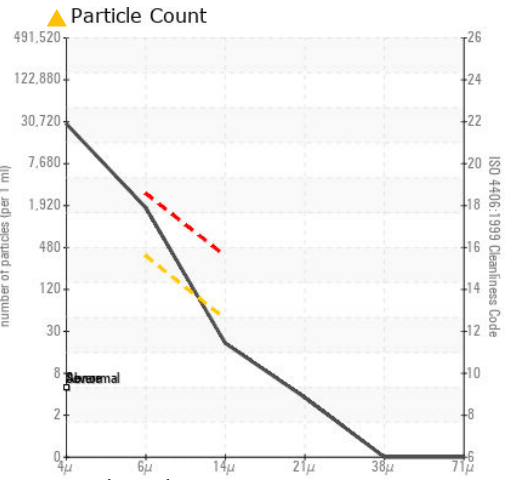
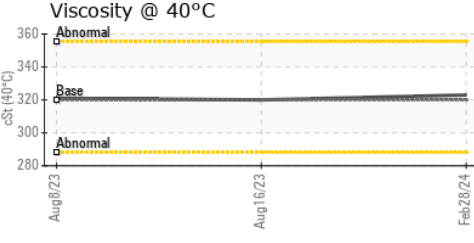
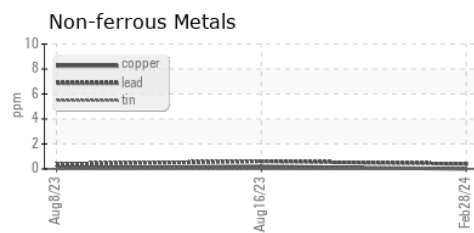
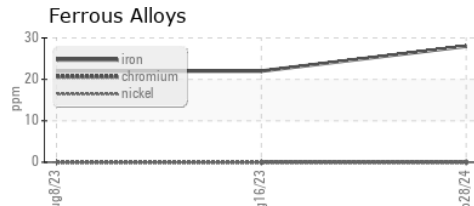
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	320

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX014647 **Received** : 19 Mar 2024
Lab Number : **06123082** **Tested** : 20 Mar 2024
Unique Number : 10937233 **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)