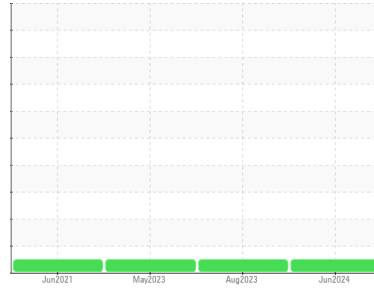




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
DAKOTA RANGE III [200006928]

Machine Id
32WEA87764 - F-04

Component
Wind Turbine Gearbox

Fluid
FUCHS RENOLIN UNISYN CLP 320 (--- LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. 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 suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			NX015955	NX05914508	NX05914505
Sample Date	Client Info			17 Jun 2024	02 Aug 2023	31 May 2023
Machine Age	hrs	Client Info		23353	0	13784
Oil Age	hrs	Client Info		23353	0	0
Oil Changed	Client Info			Not Changed	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>50	16	15	14
Iron	ppm	ASTM D5185m	>30	24	15	17
Chromium	ppm	ASTM D5185m	>3	<1	<1	<1
Nickel	ppm	ASTM D5185m	>3	<1	0	0
Titanium	ppm	ASTM D5185m	>10	<1	0	0
Silver	ppm	ASTM D5185m		<1	0	0
Aluminum	ppm	ASTM D5185m	>30	3	0	0
Lead	ppm	ASTM D5185m	>15	3	0	<1
Copper	ppm	ASTM D5185m	>10	1	0	0
Tin	ppm	ASTM D5185m	>10	<1	0	0
Antimony	ppm	ASTM D5185m	>5	---	---	---
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0

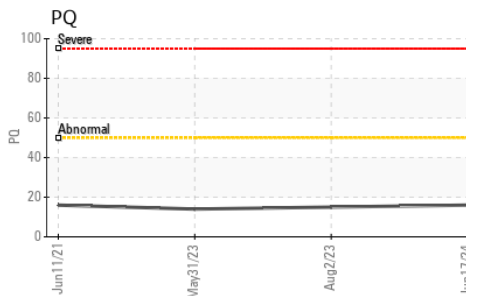
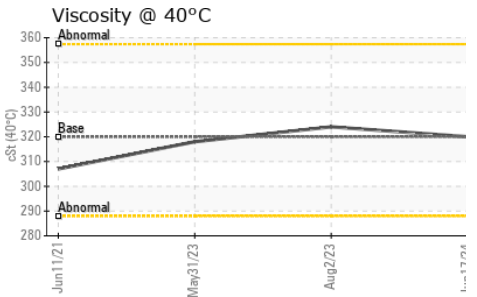
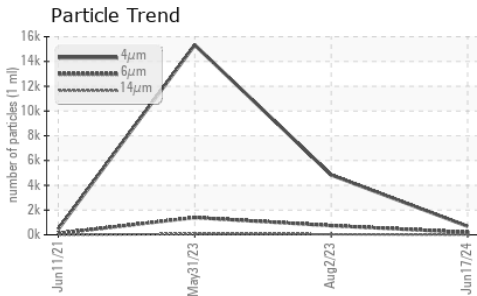
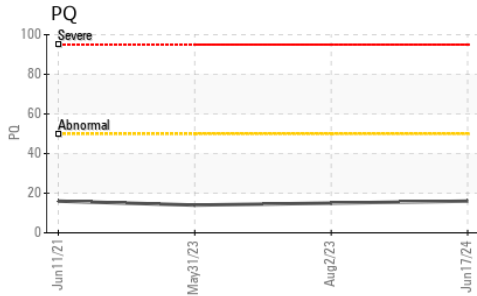
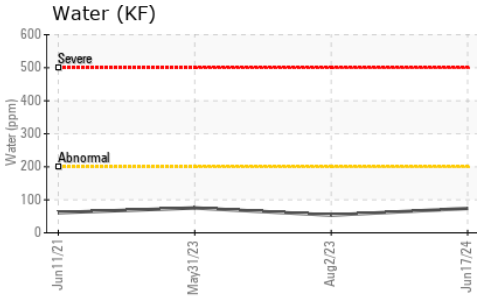
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		6	6	8
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		<1	<1	<1
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		<1	2	2
Calcium	ppm	ASTM D5185m		19	22	23
Phosphorus	ppm	ASTM D5185m		227	185	213
Zinc	ppm	ASTM D5185m		9	0	2
Sulfur	ppm	ASTM D5185m		5172	6134	6171

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+15	3	1	1
Sodium	ppm	ASTM D5185m		2	1	2
Potassium	ppm	ASTM D5185m	>20	2	<1	<1
Water	%	ASTM D6304	>0.02	0.007	0.005	0.007
ppm Water	ppm	ASTM D6304	>200	74	53.5	75.4

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		686	4836	15332
Particles >6µm		ASTM D7647	>320	197	741	1394
Particles >14µm		ASTM D7647	>40	9	45	61
Particles >21µm		ASTM D7647	>10	1	9	16
Particles >38µm		ASTM D7647	>3	0	2	2
Particles >71µm		ASTM D7647	>3	0	1	0
Oil Cleanliness		ISO 4406 (c)	>--/15/12	17/15/10	19/17/13	21/18/13



OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	0.31	0.37	0.35

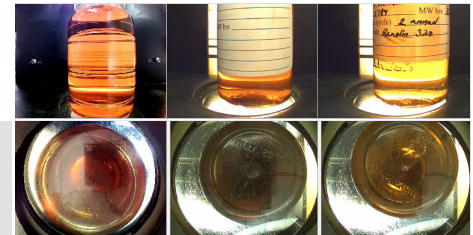
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	320	324	318

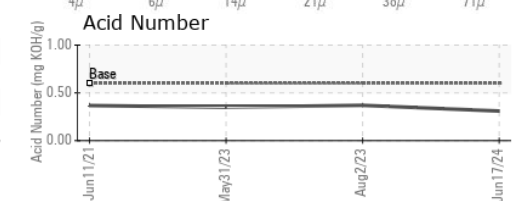
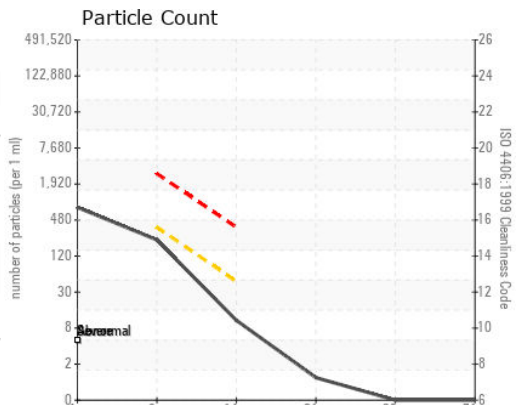
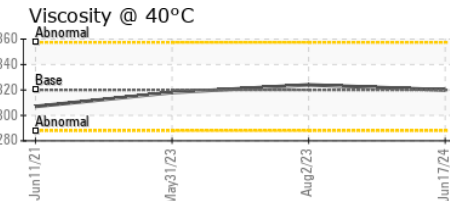
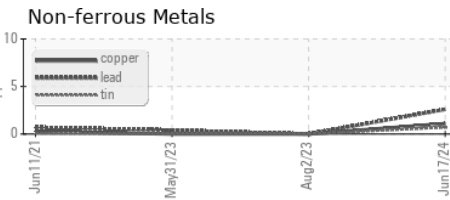
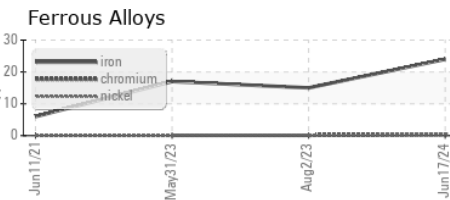
SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color

Bottom



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : NX015955

Lab Number : **06216852**

Unique Number : 11089716

Test Package : IND 2 (Additional Tests: KF, PQ, PrcCount)

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)

Received : 21 Jun 2024

Tested : 24 Jun 2024

Diagnosed : 24 Jun 2024 - Don Baldrige

NORDEX USA - Chicago

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CHICAGO, IL

US 60606

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