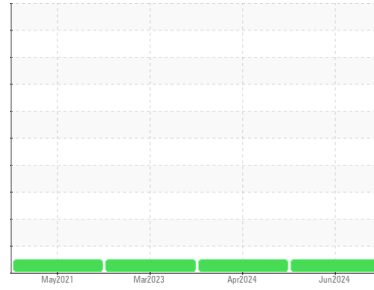




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
DAKOTA RANGE III [200006928]
 Machine Id
17WEA87745 - C-06
 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		NX015954	NX015975	NX05852431
Sample Date	Client Info		12 Jun 2024	24 Apr 2024	17 Mar 2023
Machine Age	hrs	Client Info	21939	20601	11492
Oil Age	hrs	Client Info	21939	7840	0
Oil Changed	Client Info		Not Changed	Not Changed	N/A
Sample Status			NORMAL	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2	
PQ	ASTM D8184	>50	14	15	18	
Iron	ppm	ASTM D5185m	>30	16	24	19
Chromium	ppm	ASTM D5185m	>3	<1	0	0
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	<1
Lead	ppm	ASTM D5185m	>15	1	0	0
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		8	7	6
Barium	ppm	ASTM D5185m		1	<1	0
Molybdenum	ppm	ASTM D5185m		2	0	0
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		1	0	0
Calcium	ppm	ASTM D5185m		17	23	8
Phosphorus	ppm	ASTM D5185m		241	194	208
Zinc	ppm	ASTM D5185m		9	4	2
Sulfur	ppm	ASTM D5185m		4974	5283	5647

CONTAMINANTS

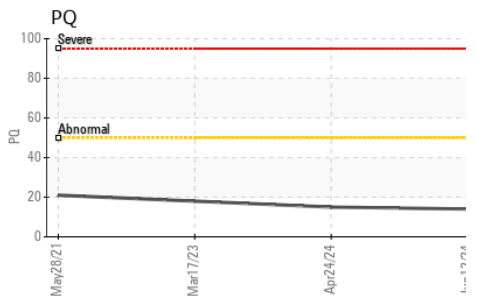
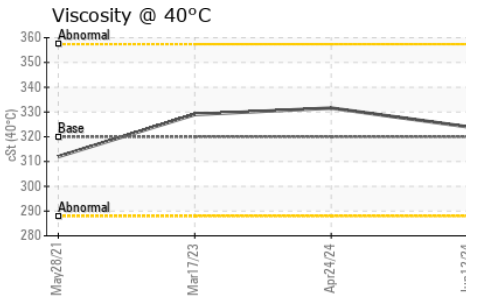
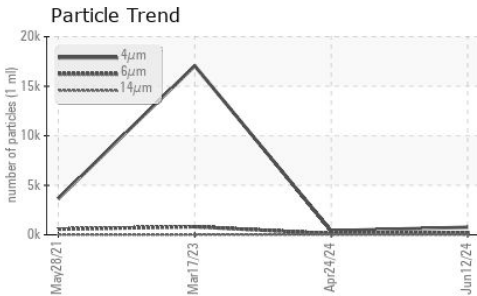
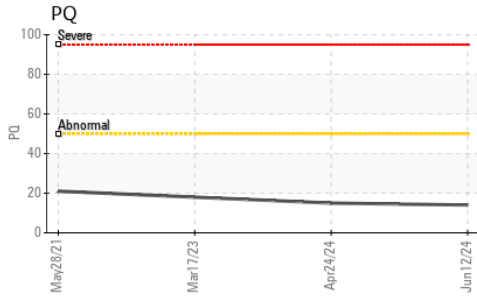
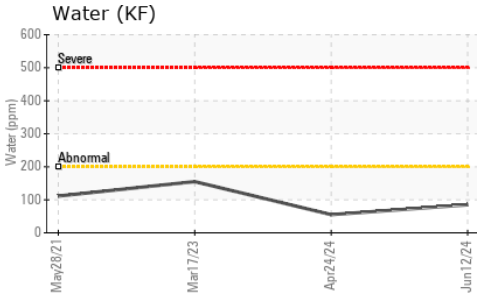
	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>+15	2	<1	1
Sodium	ppm	ASTM D5185m		2	3	1
Potassium	ppm	ASTM D5185m	>20	2	0	<1
Water	%	ASTM D6304	>0.02	0.008	0.005	0.015
ppm Water	ppm	ASTM D6304	>200	85	55	155.1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		765	405	17060
Particles >6µm	ASTM D7647	>320	233	121	813
Particles >14µm	ASTM D7647	>40	10	17	15
Particles >21µm	ASTM D7647	>10	1	6	3
Particles >38µm	ASTM D7647	>3	0	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/15/12	17/15/10	16/14/11	21/17/11



OIL ANALYSIS REPORT

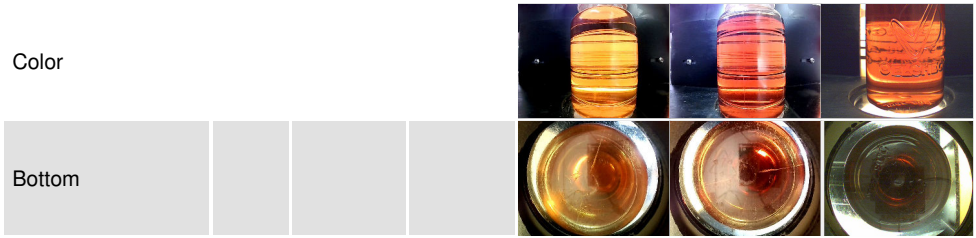


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.6	0.52	0.32	0.32

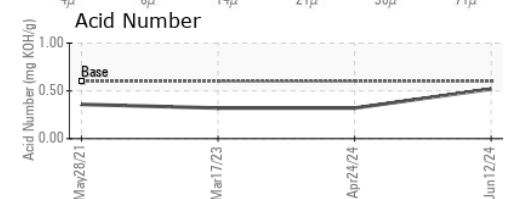
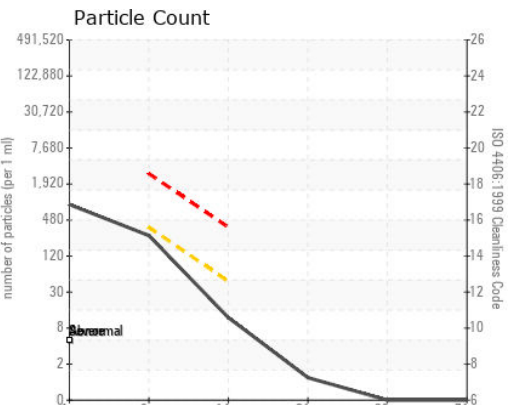
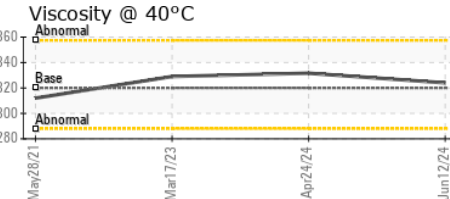
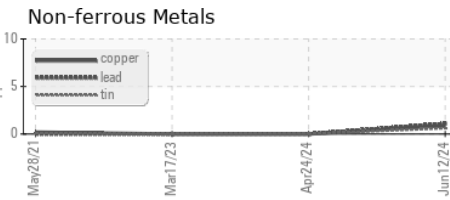
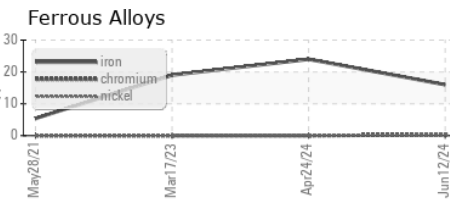
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual NONE	NONE	NONE	NONE
Silt	scalar	*Visual NONE	NONE	NONE	NONE
Debris	scalar	*Visual NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual NONE	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	324	331.6	329

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Certificate L2367

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

Sample No. : NX015954

Lab Number : 06216851

Unique Number : 11089715

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

300 SOUTH WACKER DRIVE, SUITE 1500

CHICAGO, IL

US 60606

Contact: MICHAEL SELL

m sell@nordex-online.com

T:

F: (312)386-7102