



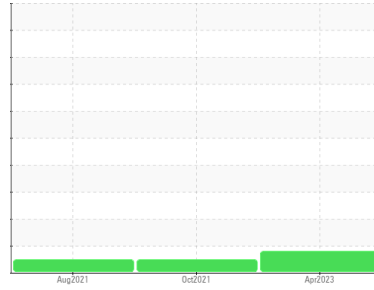
PROBLEM SUMMARY

Sample Rating Trend

ISO

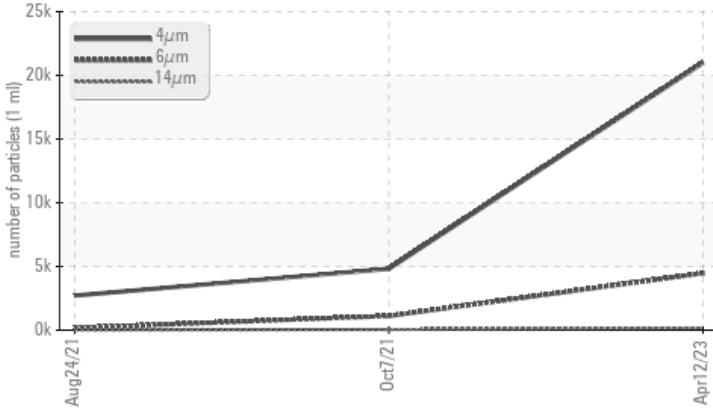


Area
FRONTIER II [20006776]
 Machine Id
01WEA86921
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN CLP ISO 320 (--- LTR)



COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

No corrective action is recommended at this time.
 Resample at the next service interval to monitor.

PROBLEMATIC TEST RESULTS

Sample Status		ATTENTION	NORMAL	NORMAL
Particles >6µm	ASTM D7647 >2500	▲ 4469	1115	169
Oil Cleanliness	ISO 4406 (c) >-/18/15	▲ 22/19/15	19/17/13	19/15/11

Customer Id: NORDEX
 Sample No.: NX05818242
 Lab Number: 05818242
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

There are no recommended actions for this sample.

HISTORICAL DIAGNOSIS

07 Oct 2021 Diag: Angela Borella

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



24 Aug 2021 Diag: Jonathan Hester

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report





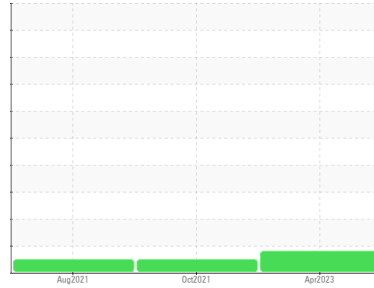
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
FRONTIER II [20006776]
 Machine Id
01WEA86921
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN CLP ISO 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 moderate 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		NX05818242	NX05391858	NX008470
Sample Date	Client Info		12 Apr 2023	07 Oct 2021	24 Aug 2021
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			ATTENTION	NORMAL	NORMAL

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>80	9	18	16
Iron	ppm	ASTM D5185m	>150	14	16
Chromium	ppm	ASTM D5185m	>5	0	<1
Nickel	ppm	ASTM D5185m	>10	0	<1
Titanium	ppm	ASTM D5185m	>10	0	0
Silver	ppm	ASTM D5185m		0	<1
Aluminum	ppm	ASTM D5185m	>10	0	0
Lead	ppm	ASTM D5185m	>20	<1	<1
Copper	ppm	ASTM D5185m	>50	<1	<1
Tin	ppm	ASTM D5185m	>10	0	<1
Antimony	ppm	ASTM D5185m	>5	---	0
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		4	20
Barium	ppm	ASTM D5185m		0	0
Molybdenum	ppm	ASTM D5185m		<1	0
Manganese	ppm	ASTM D5185m		1	<1
Magnesium	ppm	ASTM D5185m		3	0
Calcium	ppm	ASTM D5185m		16	19
Phosphorus	ppm	ASTM D5185m		191	206
Zinc	ppm	ASTM D5185m		0	0
Sulfur	ppm	ASTM D5185m		5001	3889

CONTAMINANTS

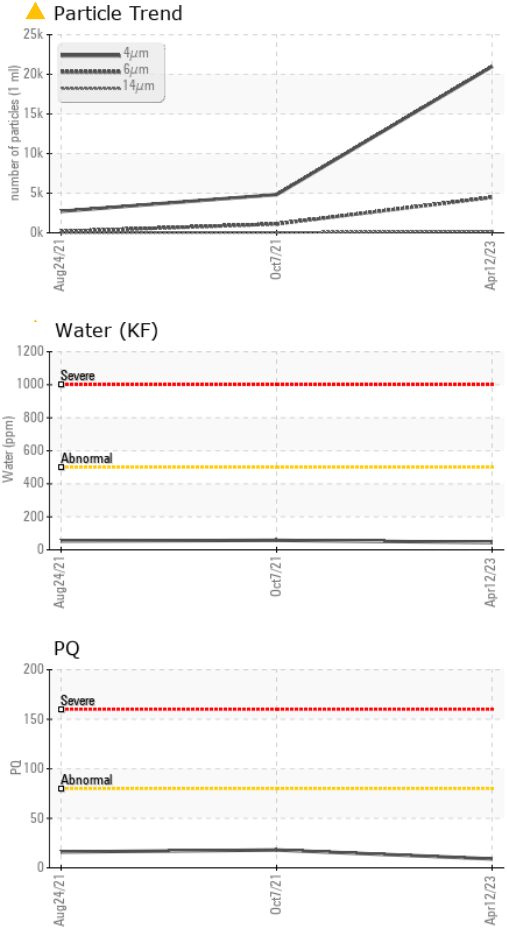
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	9	9
Sodium	ppm	ASTM D5185m	>20	3	2
Potassium	ppm	ASTM D5185m	>20	<1	<1
Water	%	ASTM D6304	>0.05	0.004	0.005
ppm Water	ppm	ASTM D6304	>500	44.4	57.5

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647			20986	4818
Particles >6µm	ASTM D7647	>2500	4469	1115	169
Particles >14µm	ASTM D7647	>320	173	47	15
Particles >21µm	ASTM D7647	>80	26	10	3
Particles >38µm	ASTM D7647	>20	0	1	0
Particles >71µm	ASTM D7647	>4	0	0	0
Oil Cleanliness	ISO 4406 (c)	>--/18/15	22/19/15	19/17/13	19/15/11



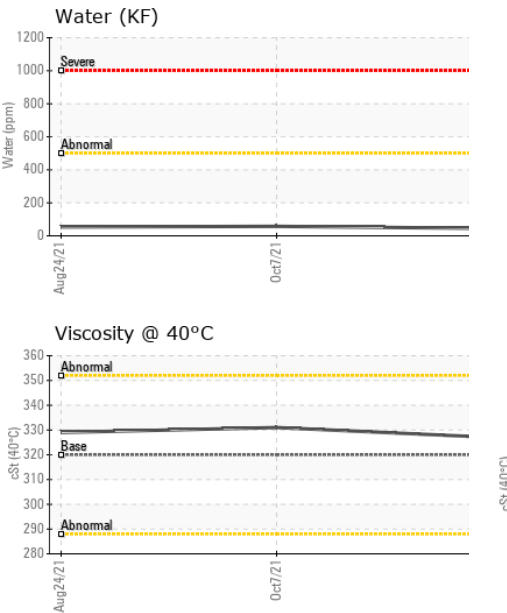
OIL ANALYSIS REPORT



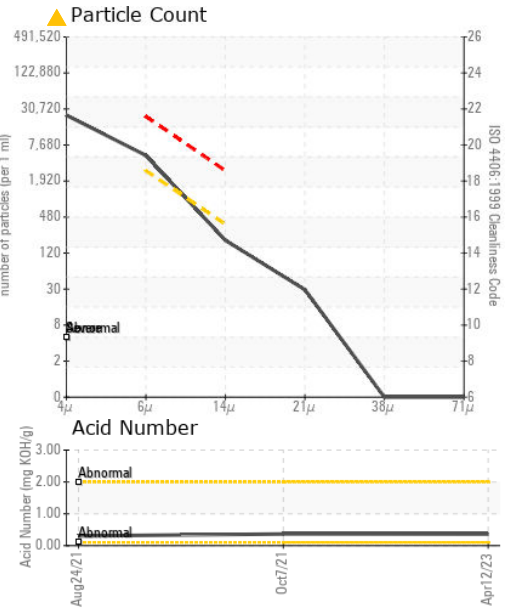
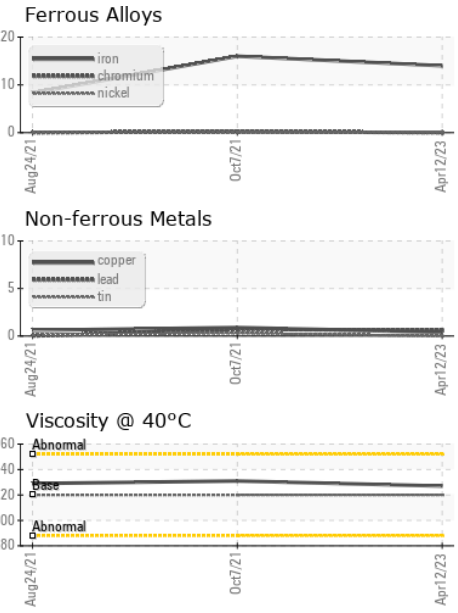
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.36	0.367	0.305
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	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	>0.05	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	327	331	329

SAMPLE IMAGES		method	limit/base	current	history1	history2
Color						
Bottom						



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX05818242 **Received** : 12 Apr 2023
Lab Number : **05818242** **Diagnosed** : 15 Apr 2023
Unique Number : 10426325 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

NORDEX USA - Chicago
 300 SOUTH WACKER DRIVE, SUITE 1500
 CHICAGO, IL
 US 60606
 Contact: DEVIN LINEHAN
 DLinehan@nordex-online.com
 T: (312)386-4124
 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)