

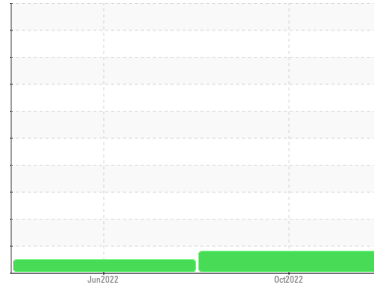


PROBLEM SUMMARY

Sample Rating Trend

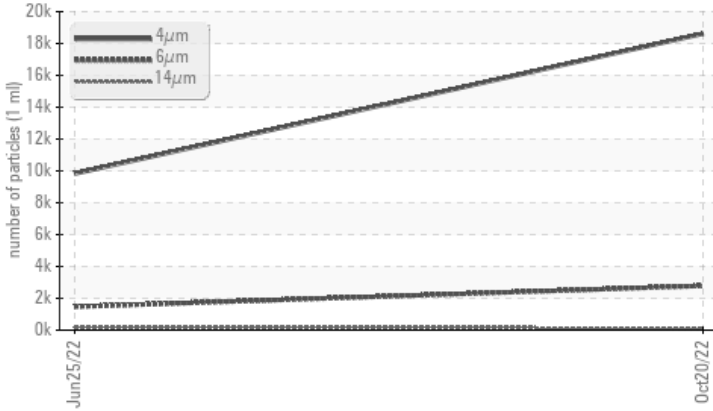
ISO

Area
EOLUS SAFE HARBOUR PORT [46004111]
 Machine Id
11425273
 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	---
Particles >6µm	ASTM D7647	>2500	▲ 2782	1469	---
Oil Cleanliness	ISO 4406 (c)	>--/18/15	▲ 21/19/14	20/18/14	---

Customer Id: NORDEX
 Sample No.: NX012573
 Lab Number: 05687865
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Angela Borella +1 800-237-1369
angela.borella@wearcheckusa.com

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

25 Jun 2022 Diag: Don Baldrige

NORMAL



Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the component. The amount and size of particulates present in the system is 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

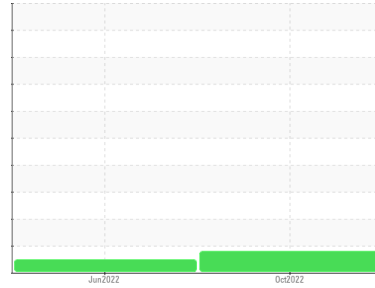


Area
EOLUS SAFE HARBOUR PORT [46004111]

Machine Id
11425273

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	NX012573	NX011458	---
Sample Date	Client Info	20 Oct 2022	25 Jun 2022	---
Machine Age	hrs	Client Info	0	---
Oil Age	hrs	Client Info	0	---
Oil Changed	Client Info	N/A	Not Changd	---
Sample Status		ATTENTION	NORMAL	---

WEAR METALS

method	limit/base	current	history1	history2		
PQ	ASTM D8184	>80	10	23	---	
Iron	ppm	ASTM D5185m	>150	2	2	---
Chromium	ppm	ASTM D5185m	>5	0	0	---
Nickel	ppm	ASTM D5185m	>10	0	0	---
Titanium	ppm	ASTM D5185m	>10	0	0	---
Silver	ppm	ASTM D5185m		0	0	---
Aluminum	ppm	ASTM D5185m	>10	0	0	---
Lead	ppm	ASTM D5185m	>20	0	0	---
Copper	ppm	ASTM D5185m	>50	0	0	---
Tin	ppm	ASTM D5185m	>3	0	0	---
Vanadium	ppm	ASTM D5185m		0	0	---
Cadmium	ppm	ASTM D5185m		0	0	---

ADDITIVES

method	limit/base	current	history1	history2		
Boron	ppm	ASTM D5185m		0	3	---
Barium	ppm	ASTM D5185m		0	2	---
Molybdenum	ppm	ASTM D5185m		0	0	---
Manganese	ppm	ASTM D5185m		0	0	---
Magnesium	ppm	ASTM D5185m		0	0	---
Calcium	ppm	ASTM D5185m		19	17	---
Phosphorus	ppm	ASTM D5185m		224	185	---
Zinc	ppm	ASTM D5185m		0	4	---
Sulfur	ppm	ASTM D5185m		5955	4528	---

CONTAMINANTS

method	limit/base	current	history1	history2		
Silicon	ppm	ASTM D5185m	>50	5	4	---
Sodium	ppm	ASTM D5185m	>20	0	0	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---
Water	%	ASTM D6304	>0.05	0.009	0.010	---
ppm Water	ppm	ASTM D6304	>500	98.9	105.2	---

FLUID CLEANLINESS

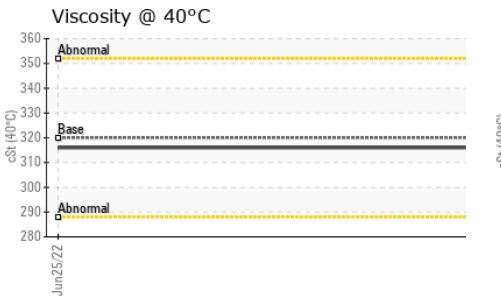
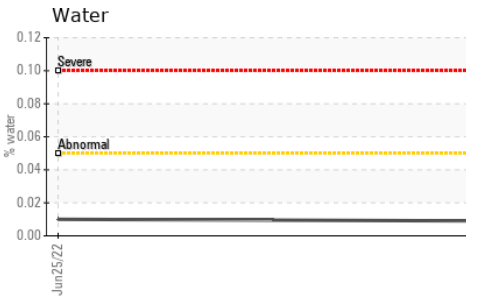
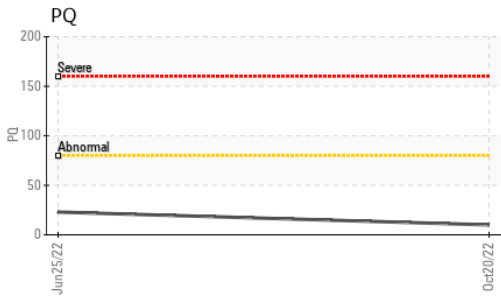
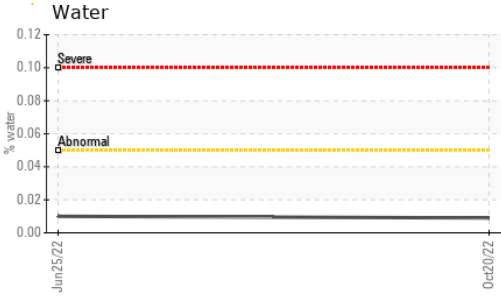
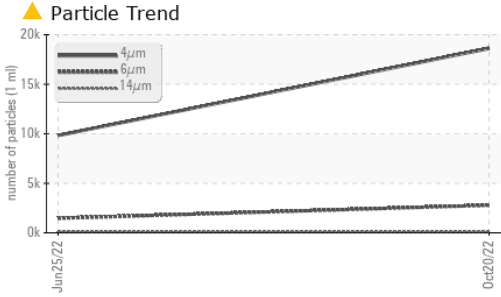
method	limit/base	current	history1	history2	
Particles >4µm	ASTM D7647		18616	9828	---
Particles >6µm	ASTM D7647	>2500	2782	1469	---
Particles >14µm	ASTM D7647	>320	141	148	---
Particles >21µm	ASTM D7647	>80	32	22	---
Particles >38µm	ASTM D7647	>20	0	2	---
Particles >71µm	ASTM D7647	>4	0	1	---
Oil Cleanliness	ISO 4406 (c)	>--/18/15	21/19/14	20/18/14	---

FLUID DEGRADATION

method	limit/base	current	history1	history2		
Acid Number (AN)	mg KOH/g	ASTM D8045		0.47	0.46	---



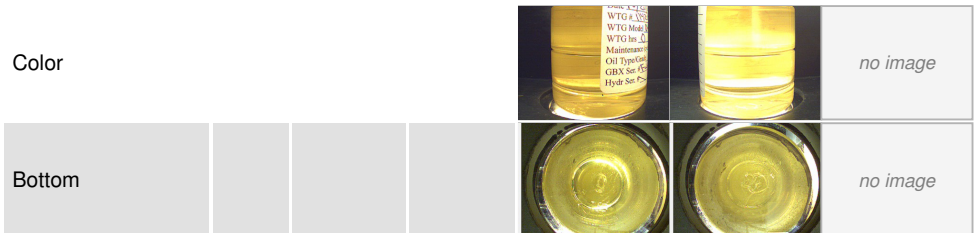
OIL ANALYSIS REPORT



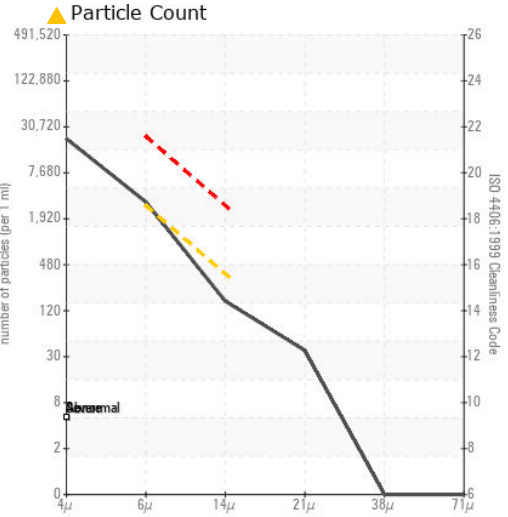
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.05	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	316	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX012573 **Received** : 08 Nov 2022
Lab Number : 05687865 **Diagnosed** : 14 Nov 2022
Unique Number : 10207437 **Diagnostician** : Angela Borella
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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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)