



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
EOLUS SAFE HARBOUR PORT [46004111]

Machine Id
11425270

Component
Wind Turbine Gearbox

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

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		NX014234	NX013321	NX011757
Sample Date		Client Info		30 Nov 2023	29 Jul 2023	03 May 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Filter Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	ATTENTION	ATTENTION

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>80	16	17	12
Iron	ppm	ASTM D5185m	>150	1	2	2
Chromium	ppm	ASTM D5185m	>5	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	<1
Titanium	ppm	ASTM D5185m	>10	<1	<1	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	<1	<1	0
Lead	ppm	ASTM D5185m	>20	0	0	<1
Copper	ppm	ASTM D5185m	>50	<1	<1	0
Tin	ppm	ASTM D5185m	>3	0	0	<1
Vanadium	ppm	ASTM D5185m		<1	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

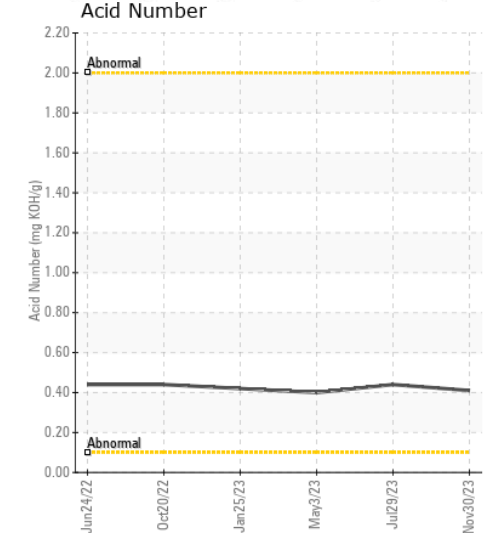
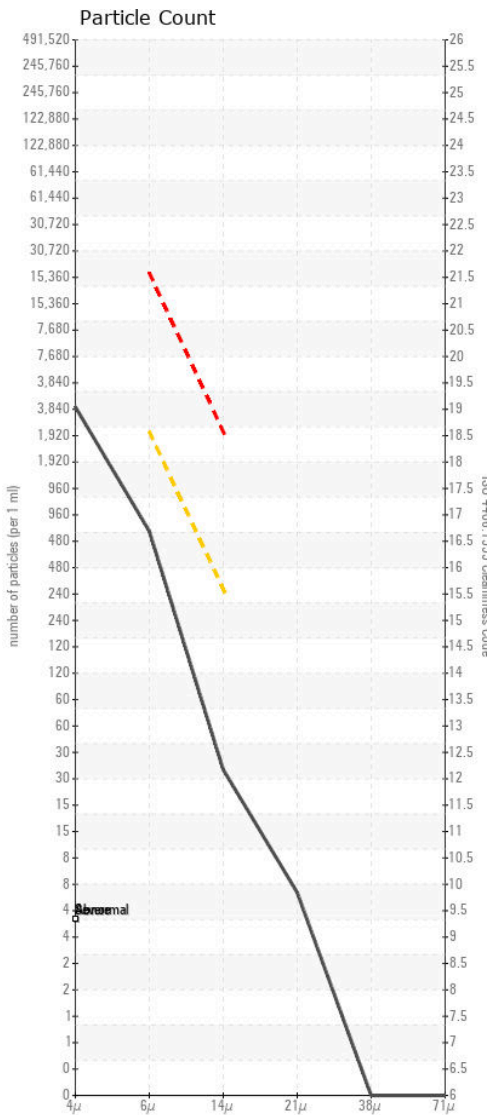
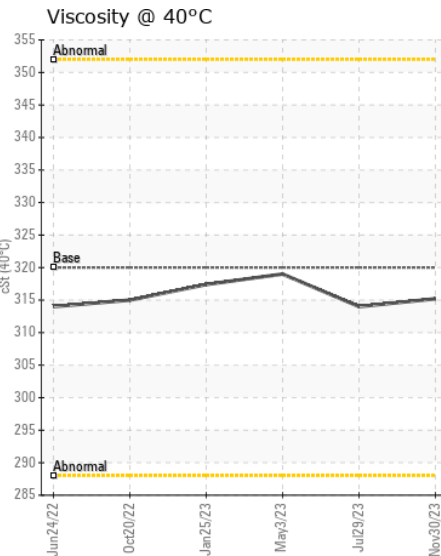
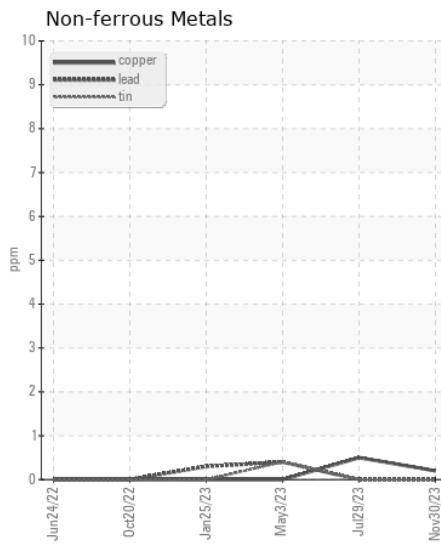
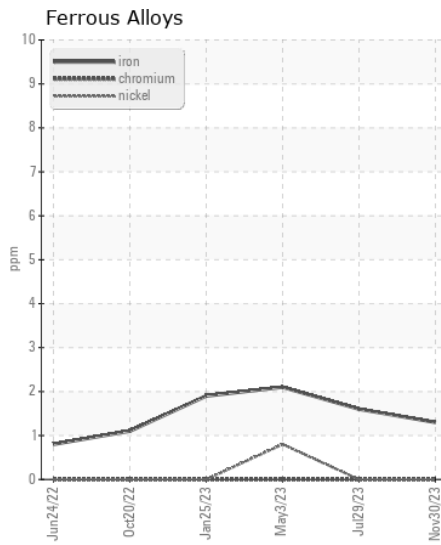
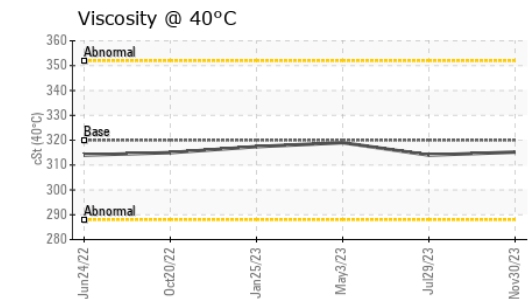
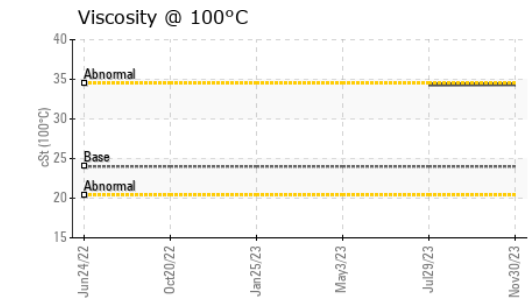
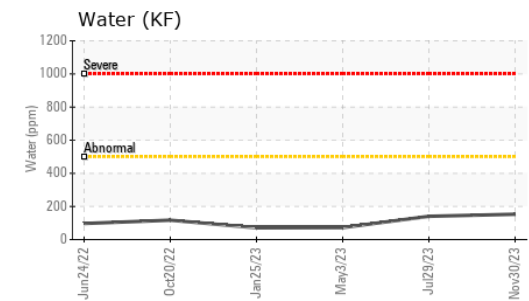
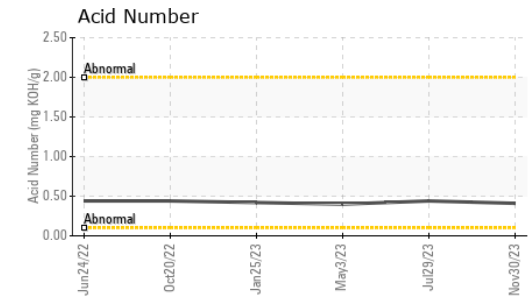
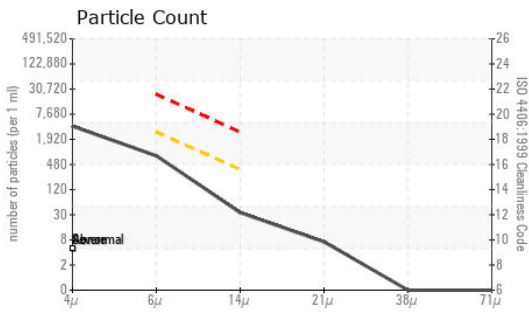
There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>50	5	4	3
Potassium	ppm	ASTM D5185m	>20	<1	2	2
Water	%	ASTM D6304	>0.05	0.015	0.014	0.007
ppm Water	ppm	ASTM D6304	>500	153	140.5	72.4
Particles >4µm		ASTM D7647		3458	17624	20672
Particles >6µm		ASTM D7647	>2500	680	▲ 4408	▲ 3705
Particles >14µm		ASTM D7647	>320	30	141	92
Particles >21µm		ASTM D7647	>80	6	15	7
Particles >38µm		ASTM D7647	>20	0	0	1
Particles >71µm		ASTM D7647	>4	0	0	1
Oil Cleanliness		ISO 4406 (c)	--/18/15	19/17/12	▲ 21/19/14	▲ 22/19/14
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

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>20	2	2	3
Boron	ppm	ASTM D5185m		5	3	4
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m		<1	2	2
Calcium	ppm	ASTM D5185m		24	21	21
Phosphorus	ppm	ASTM D5185m		242	237	241
Zinc	ppm	ASTM D5185m		3	0	0
Sulfur	ppm	ASTM D5185m		5574	6090	6493
Acid Number (AN)	mg KOH/g	ASTM D8045		0.41	0.44	0.40
Visc @ 40°C	cSt	ASTM D445	320	315.2	314.0	319
Visc @ 100°C	cSt	ASTM D445	24	34.35	34.32	---
Viscosity Index (VI)	Scale	ASTM D2270	95	153	153	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX014234 **Received** : 11 Dec 2023
Lab Number : 06031075 **Diagnosed** : 14 Dec 2023
Unique Number : 10780866 **Diagnostician** : Jonathan Hester
Test Package : IND 2 (Additional Tests: KF, KV100, PQ, PrtCount, VI)

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)

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