



OIL ANALYSIS REPORT

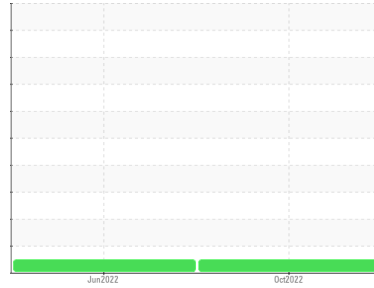
Sample Rating Trend

NORMAL



Area
EOLUS SAFE HARBOUR PORT [46004111]
Machine Id
11425270

Component
Wind Turbine Gearbox
Fluid
FUCHS RENOLIN CLP ISO 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 component. The amount and size of particulates present in the system is 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		NX012574	NX011457	---
Sample Date	Client Info		20 Oct 2022	24 Jun 2022	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	Not Chngd	---
Sample Status			NORMAL	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>80	7	21	---
Iron	ppm	ASTM D5185m	>150	1	<1
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	4
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		22	19
Phosphorus	ppm	ASTM D5185m		217	190
Zinc	ppm	ASTM D5185m		0	4
Sulfur	ppm	ASTM D5185m		5754	4515

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	4	4
Sodium	ppm	ASTM D5185m	>20	0	0
Potassium	ppm	ASTM D5185m	>20	0	<1
Water	%	ASTM D6304	>0.05	0.011	0.009
ppm Water	ppm	ASTM D6304	>500	117.2	97.0

FLUID CLEANLINESS

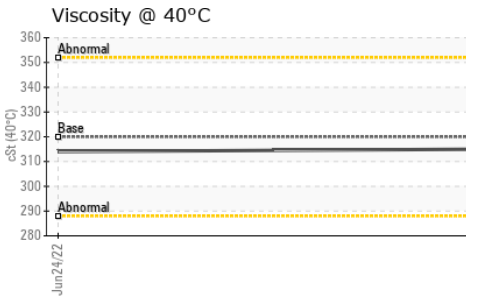
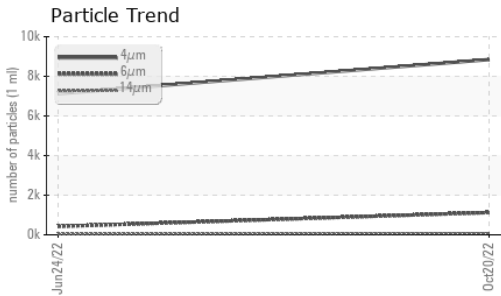
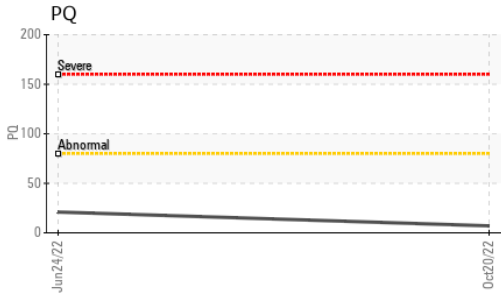
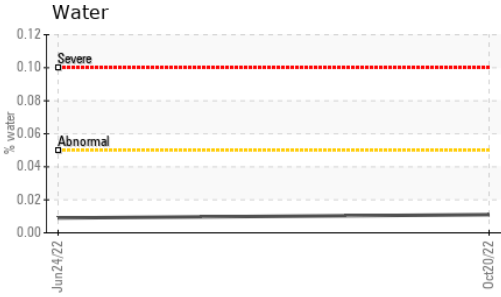
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		8847	7124	---
Particles >6µm	ASTM D7647	>2500	1124	423	---
Particles >14µm	ASTM D7647	>320	82	35	---
Particles >21µm	ASTM D7647	>80	18	10	---
Particles >38µm	ASTM D7647	>20	0	2	---
Particles >71µm	ASTM D7647	>4	0	0	---
Oil Cleanliness	ISO 4406 (c)	>--/18/15	20/17/14	20/16/12	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.44	0.44



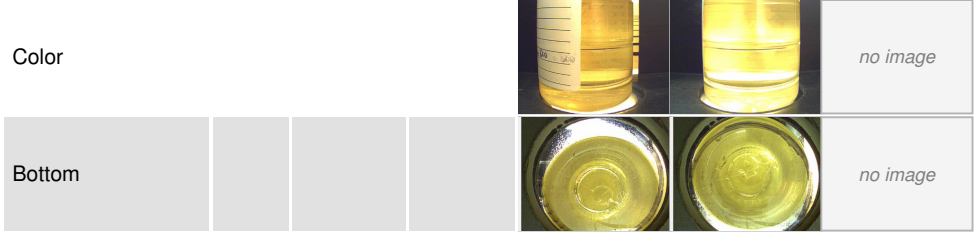
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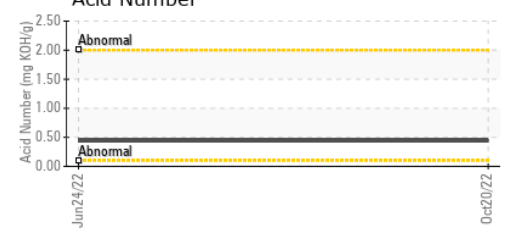
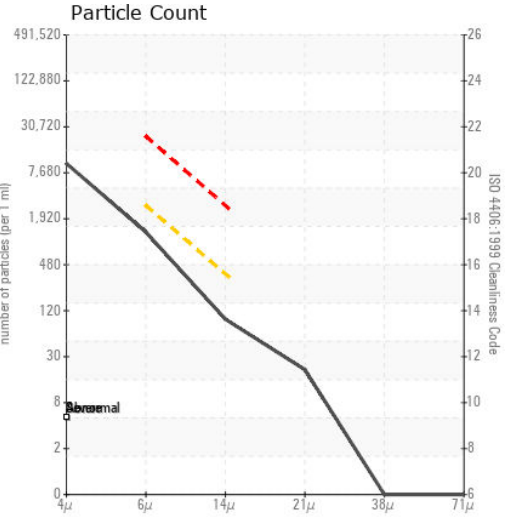
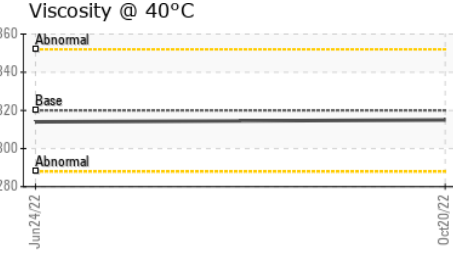
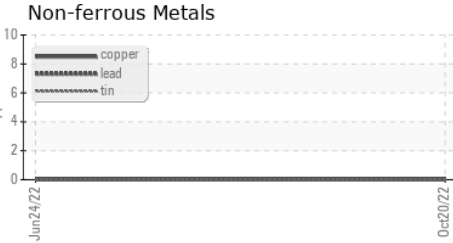
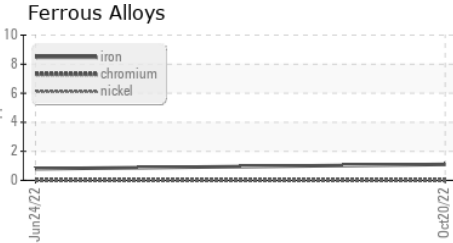
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	315	314	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX012574 **Received** : 08 Nov 2022
Lab Number : **05687864** **Diagnosed** : 14 Nov 2022
Unique Number : 10207436 **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)