



OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
AZURE SKY [200007684]

Machine Id
T-51 - L-2

Component
Wind Turbine Gearbox

Fluid
FUCHS RENOLIN UNISYN CLP 320 (650 LTR)



DIAGNOSIS

Recommendation

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates 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	NX06054791	---	---
Sample Date	Client Info	27 Sep 2023	---	---
Machine Age	hrs	Client Info	0	---
Oil Age	hrs	Client Info	0	---
Oil Changed	Client Info	N/A	---	---
Sample Status		ABNORMAL	---	---

WEAR METALS

method	limit/base	current	history1	history2
PQ	ASTM D8184	>50	16	---
Iron	ppm	ASTM D5185m	>30	6
Chromium	ppm	ASTM D5185m	>3	0
Nickel	ppm	ASTM D5185m	>3	0
Titanium	ppm	ASTM D5185m	>10	0
Silver	ppm	ASTM D5185m		0
Aluminum	ppm	ASTM D5185m	>30	0
Lead	ppm	ASTM D5185m	>15	<1
Copper	ppm	ASTM D5185m	>10	0
Tin	ppm	ASTM D5185m	>10	0
Vanadium	ppm	ASTM D5185m		0
Cadmium	ppm	ASTM D5185m		0

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		5
Barium	ppm	ASTM D5185m		0
Molybdenum	ppm	ASTM D5185m		0
Manganese	ppm	ASTM D5185m		0
Magnesium	ppm	ASTM D5185m		0
Calcium	ppm	ASTM D5185m		15
Phosphorus	ppm	ASTM D5185m		198
Zinc	ppm	ASTM D5185m		0
Sulfur	ppm	ASTM D5185m		4604

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>+15	3
Sodium	ppm	ASTM D5185m		5
Potassium	ppm	ASTM D5185m	>20	<1
Water	%	ASTM D6304	>0.02	0.003
ppm Water	ppm	ASTM D6304	>200	33

FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		3092	---
Particles >6µm	ASTM D7647	>320	▲ 971	---
Particles >14µm	ASTM D7647	>40	▲ 59	---
Particles >21µm	ASTM D7647	>10	▲ 13	---
Particles >38µm	ASTM D7647	>3	0	---
Particles >71µm	ASTM D7647	>3	0	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	▲ 19/17/13	---

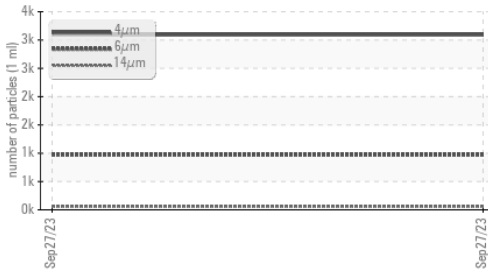
FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	0.35

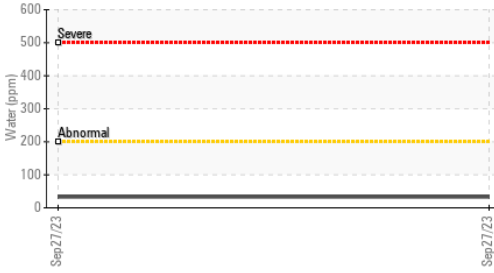


OIL ANALYSIS REPORT

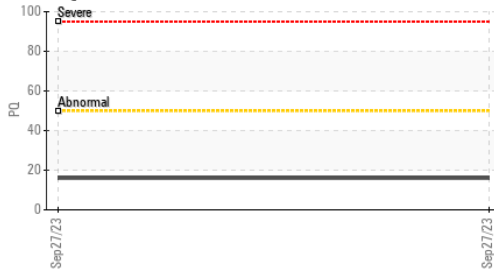
Particle Trend



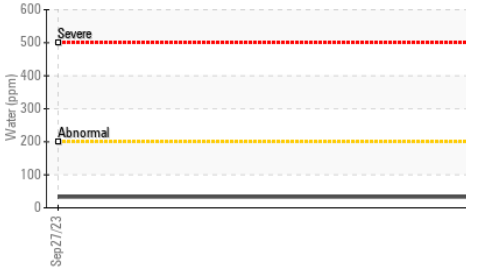
Water (KF)



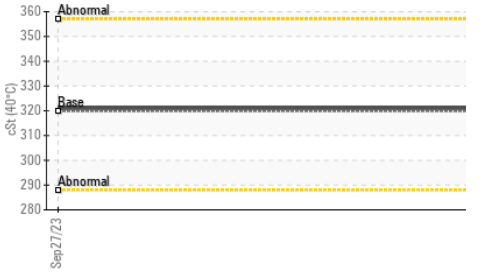
PQ



Water (KF)



Viscosity @ 40°C



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	>0.02	NEG	---
Free Water	scalar	*Visual		NEG	---

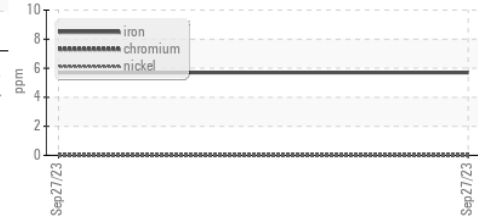
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	321	---

SAMPLE IMAGES

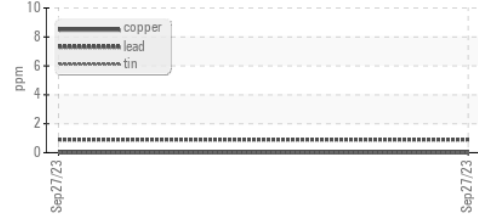
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color				no image	no image
Bottom				no image	no image

GRAPHS

Ferrous Alloys



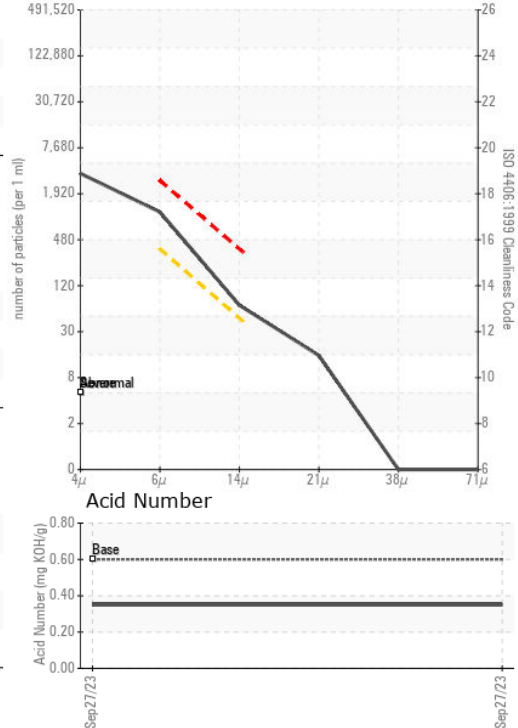
Non-ferrous Metals



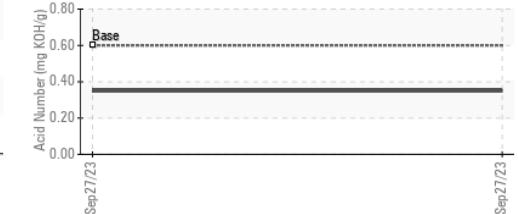
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
 Sample No. : NX06054791 Recieved : 08 Jan 2024
 Lab Number : 06054791 Diagnosed : 10 Jan 2024
 Unique Number : 10820740 Diagnostician : Don Baldrige
 Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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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)