



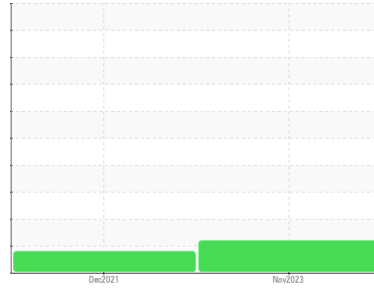
OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
MARYNEAL [200006807]
 Machine Id
87043 SITE 5
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN CLP ISO 320 (650 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 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		NX06054875	NX009593	---
Sample Date	Client Info		09 Nov 2023	03 Dec 2021	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	N/A	---
Sample Status			ATTENTION	ATTENTION	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>80	11	14	---
Iron	ppm	ASTM D5185m	>150	6	4
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	<1
Aluminum	ppm	ASTM D5185m	>10	0	<1
Lead	ppm	ASTM D5185m	>20	<1	<1
Copper	ppm	ASTM D5185m	>50	0	<1
Tin	ppm	ASTM D5185m	>3	0	<1
Antimony	ppm	ASTM D5185m	>3	---	0
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	0

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		5	3
Barium	ppm	ASTM D5185m		0	0
Molybdenum	ppm	ASTM D5185m		0	0
Manganese	ppm	ASTM D5185m		0	<1
Magnesium	ppm	ASTM D5185m		0	0
Calcium	ppm	ASTM D5185m		11	7
Phosphorus	ppm	ASTM D5185m		170	▲ 80
Zinc	ppm	ASTM D5185m		0	0
Sulfur	ppm	ASTM D5185m		4453	▲ 1664

CONTAMINANTS

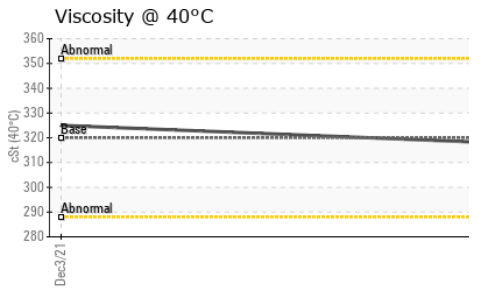
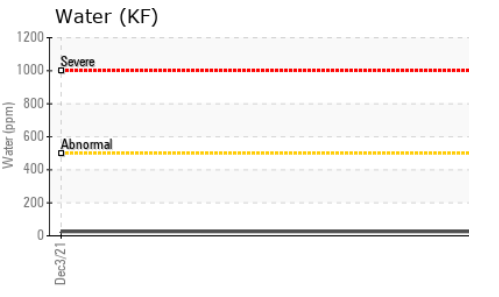
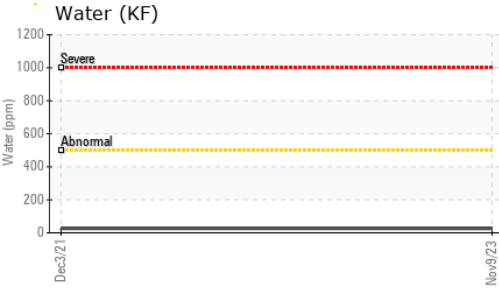
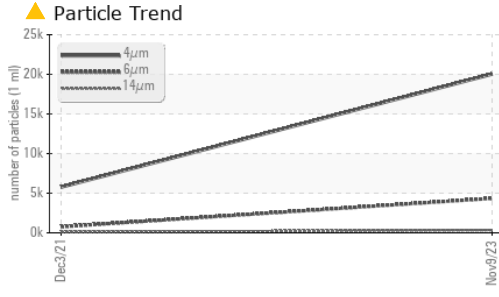
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	19	4
Sodium	ppm	ASTM D5185m	>20	4	0
Potassium	ppm	ASTM D5185m	>20	0	0
Water	%	ASTM D6304	>0.05	0.003	0.003
ppm Water	ppm	ASTM D6304	>500	26	26.1

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		20027	5761	---
Particles >6µm	ASTM D7647	>2500	▲ 4345	767	---
Particles >14µm	ASTM D7647	>320	▲ 336	109	---
Particles >21µm	ASTM D7647	>80	65	30	---
Particles >38µm	ASTM D7647	>20	1	1	---
Particles >71µm	ASTM D7647	>4	0	0	---
Oil Cleanliness	ISO 4406 (c)	>--/18/15	▲ 22/19/16	20/17/14	---



OIL ANALYSIS REPORT

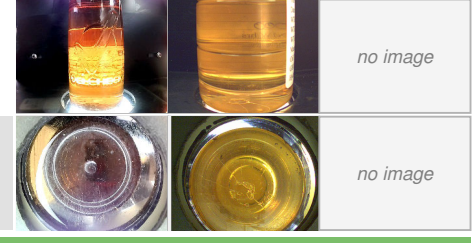


FLUID DEGRADATION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.31	0.38	---

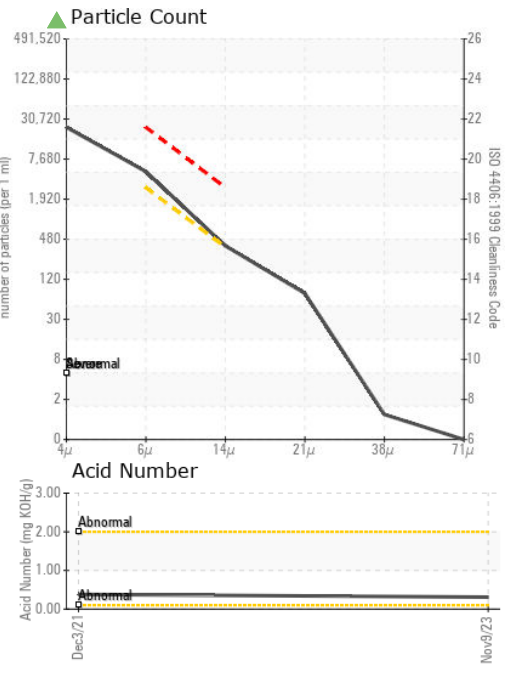
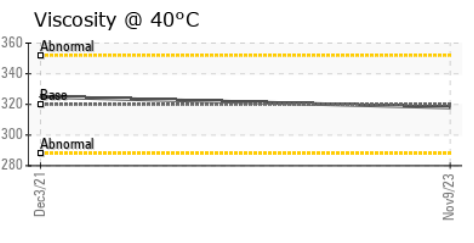
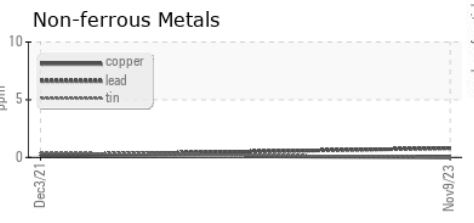
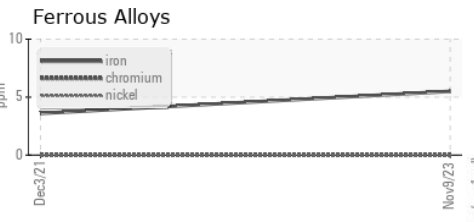
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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	318	325	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX06054875 **Received** : 08 Jan 2024
Lab Number : 06054875 **Diagnosed** : 10 Jan 2024
Unique Number : 10820824 **Diagnostician** : Don Baldrige
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)