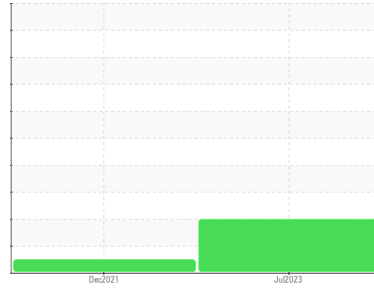




OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
MARYNEAL [200006807]
 Machine Id
87026 SITE 28

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		NX06054857	NX009228	---
Sample Date	Client Info		18 Jul 2023	28 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			ABNORMAL	NORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>40	14	17	---
Iron	ppm	ASTM D5185m	>55	9	9
Chromium	ppm	ASTM D5185m	>2	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0
Titanium	ppm	ASTM D5185m	>10	0	0
Silver	ppm	ASTM D5185m		0	<1
Aluminum	ppm	ASTM D5185m	>15	0	<1
Lead	ppm	ASTM D5185m	>3	<1	<1
Copper	ppm	ASTM D5185m	>7	<1	<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		2	7
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	19
Phosphorus	ppm	ASTM D5185m		179	194
Zinc	ppm	ASTM D5185m		<1	0
Sulfur	ppm	ASTM D5185m		4460	4029

CONTAMINANTS

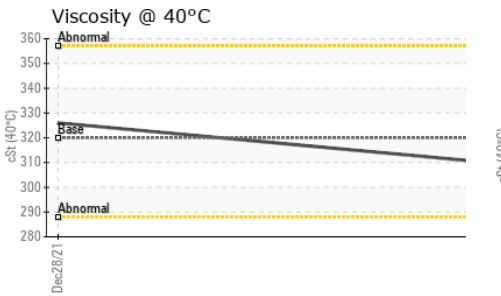
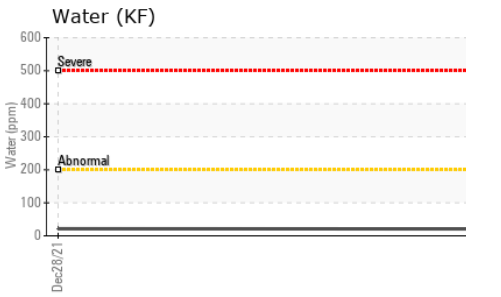
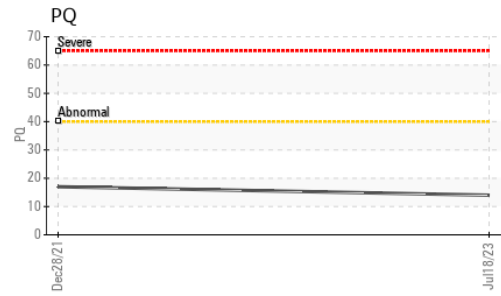
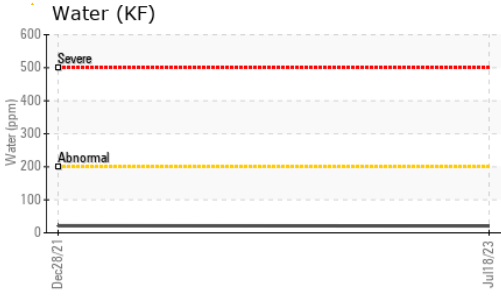
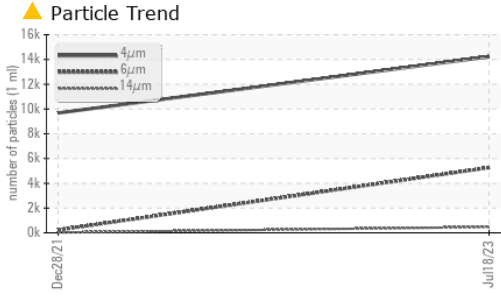
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>35	6	25
Sodium	ppm	ASTM D5185m		5	0
Potassium	ppm	ASTM D5185m	>20	0	<1
Water	%	ASTM D6304	>0.02	0.002	0.002
ppm Water	ppm	ASTM D6304	>200	21	21.5

FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		14222	9679	---
Particles >6µm	ASTM D7647	>320	▲ 5262	228	---
Particles >14µm	ASTM D7647	>40	▲ 470	21	---
Particles >21µm	ASTM D7647	>10	▲ 101	6	---
Particles >38µm	ASTM D7647	>3	▲ 4	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	▲ 21/20/16	20/15/12	---



OIL ANALYSIS REPORT



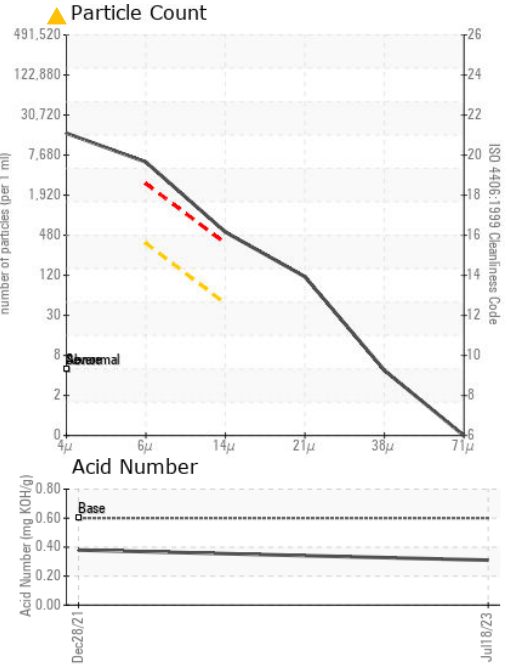
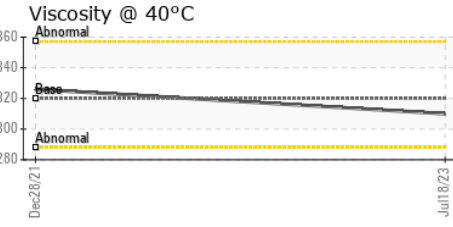
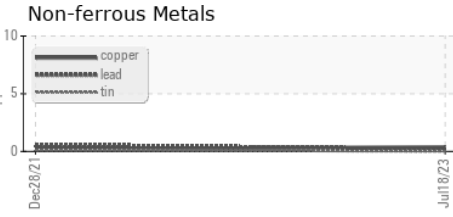
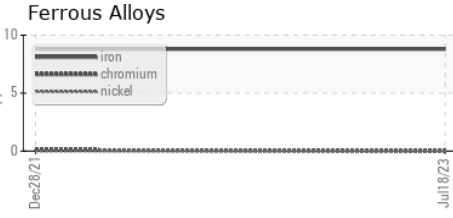
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.6	0.31	0.38	---

VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.02	NEG	NEG	---
Free Water	scalar	*Visual		NEG	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	310	326	---

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

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX06054857 **Received** : 08 Jan 2024
Lab Number : 06054857 **Diagnosed** : 10 Jan 2024
Unique Number : 10820806 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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 US 60606
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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)