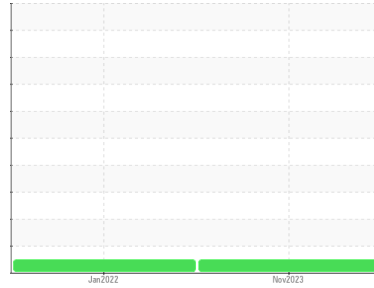




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
MARYNEAL [200006807]
 Machine Id
87035 SITE 10
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN CLP ISO 320 (650 LTR)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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			NX06054867	NX009296	---
Sample Date	Client Info			08 Nov 2023	10 Jan 2022	---
Machine Age	hrs	Client Info		0	0	---
Oil Age	hrs	Client Info		0	0	---
Oil Changed	Client Info			N/A	N/A	---
Sample Status				NORMAL	NORMAL	---

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>80	9	22	---
Iron	ppm	ASTM D5185m	>150	12	88	---
Chromium	ppm	ASTM D5185m	>5	0	<1	---
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	0	<1	---
Copper	ppm	ASTM D5185m	>50	2	<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	---

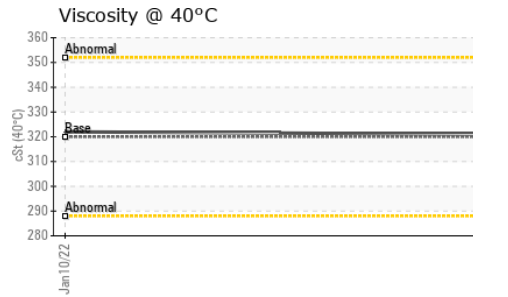
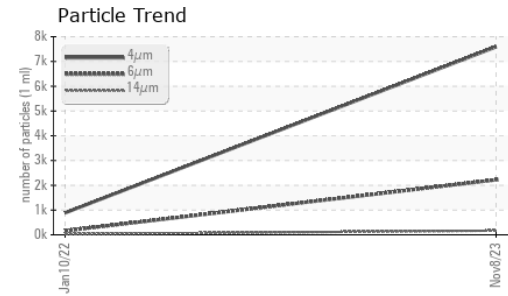
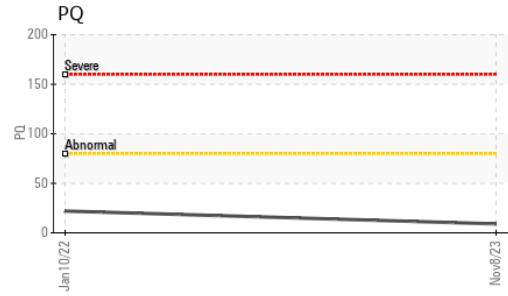
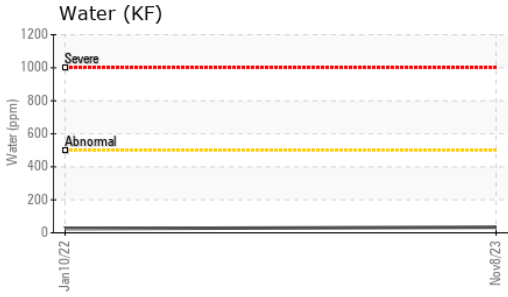
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		8	11	---
Barium	ppm	ASTM D5185m		0	0	---
Molybdenum	ppm	ASTM D5185m		0	0	---
Manganese	ppm	ASTM D5185m		0	<1	---
Magnesium	ppm	ASTM D5185m		0	0	---
Calcium	ppm	ASTM D5185m		10	20	---
Phosphorus	ppm	ASTM D5185m		183	210	---
Zinc	ppm	ASTM D5185m		0	0	---
Sulfur	ppm	ASTM D5185m		4658	4111	---

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	13	6	---
Sodium	ppm	ASTM D5185m	>20	5	0	---
Potassium	ppm	ASTM D5185m	>20	0	<1	---
Water	%	ASTM D6304	>0.05	0.003	0.003	---
ppm Water	ppm	ASTM D6304	>500	34	25.1	---

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		7593	887	---
Particles >6µm		ASTM D7647	>2500	2223	163	---
Particles >14µm		ASTM D7647	>320	168	27	---
Particles >21µm		ASTM D7647	>80	41	10	---
Particles >38µm		ASTM D7647	>20	2	0	---
Particles >71µm		ASTM D7647	>4	1	0	---
Oil Cleanliness		ISO 4406 (c)	>--/18/15	20/18/15	17/15/12	---



OIL ANALYSIS REPORT

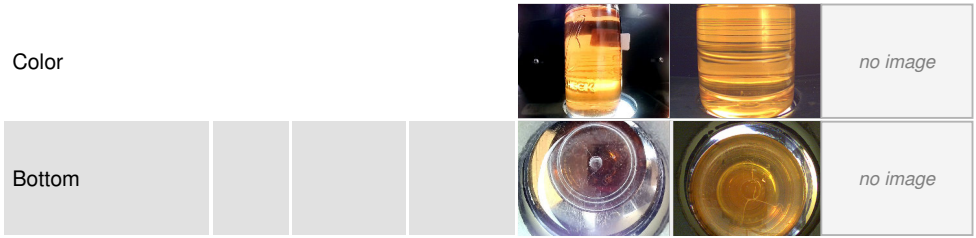


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.47	0.39	---

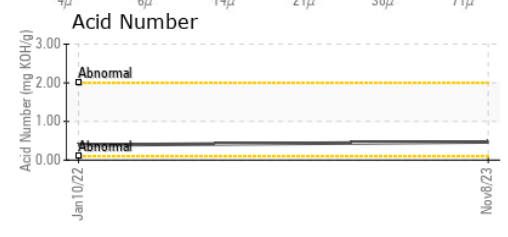
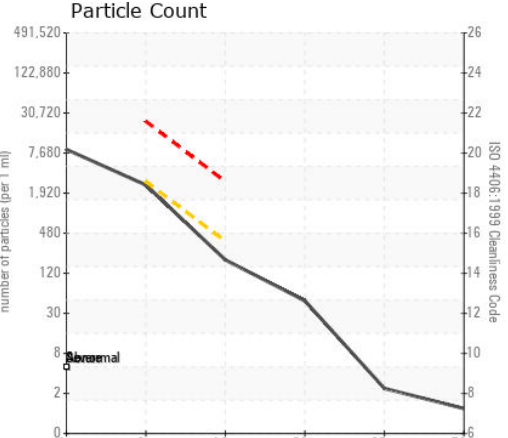
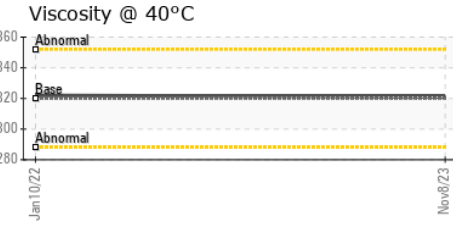
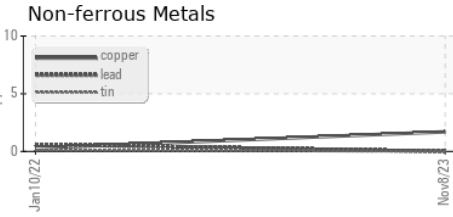
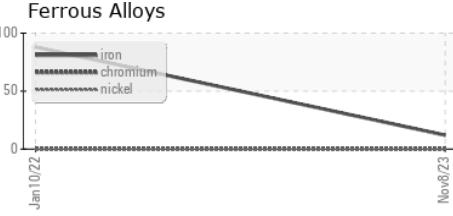
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	LIGHT	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	---
Free Water	scalar	*Visual		NEG	NEG	---

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	321	322	---

SAMPLE IMAGES



GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX06054867 **Received** : 08 Jan 2024
Lab Number : 06054867 **Diagnosed** : 10 Jan 2024
Unique Number : 10820816 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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 CHICAGO, IL
 US 60606
 Contact: DEVIN LINEHAN
 DLinehan@nordex-online.com
 T: (312)386-4124
 F: (312)386-7102

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)