

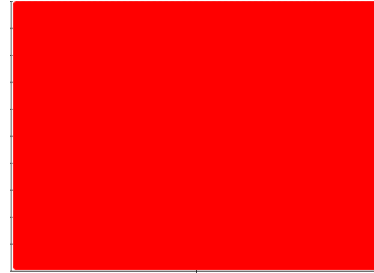


PROBLEM SUMMARY

Sample Rating Trend

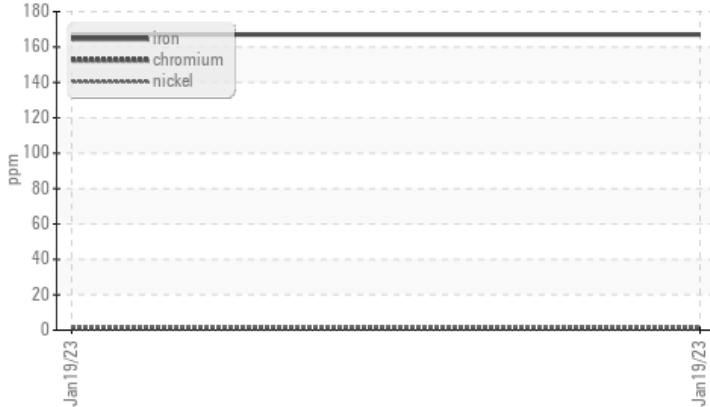
VISUAL METAL

Area
BLACKJACK CREEK [600340267]
 Machine Id
40WEA88449 - J-05 (S/N W-122705)
 Component
Wind Turbine Gearbox
 Fluid
FUCHS RENOLIN UNISYN CKC ISO 320 (--- LTR)



COMPONENT CONDITION SUMMARY

Ferrous Alloys



RECOMMENDATION

Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s). We advise that you inspect for the source(s) of wear.

PROBLEMATIC TEST RESULTS

Sample Status				SEVERE	---	---
Iron	ppm	ASTM D5185m	>55	167	---	---
White Metal	scalar	*Visual	NONE	MODER	---	---
Debris	scalar	*Visual	NONE	MODER	---	---

Customer Id: NORDEX
 Sample No.: NX011505
 Lab Number: 05757522
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

To change component or sample information:
 Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Inspect Wear Source	---	---	?	We advise that you inspect for the source(s) of wear.
Change Filter	---	---	?	Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).
Resample	---	---	?	Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s).

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

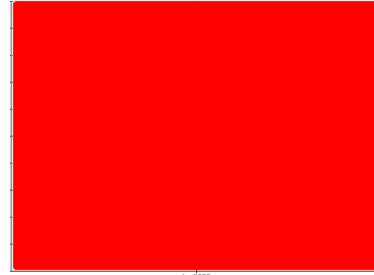
Sample Rating Trend

VISUAL METAL

Area
BLACKJACK CREEK [600340267]
Machine Id
40WEA88449 - J-05 (S/N W-122705)

Component
Wind Turbine Gearbox

Fluid
FUCHS RENOLIN UNISYN CKC ISO 320 (--- LTR)



DIAGNOSIS

Recommendation

Re-sample to verify the actual oil condition. Replace filter elements. Change oil if cleanliness level does not improve after replacing the filter(s). We advise that you inspect for the source(s) of wear.

Wear

Moderate concentration of visible metal present. Gear wear is indicated.

Contamination

Insufficient sample was received to conduct all the routine laboratory tests. Moderate concentration of visible dirt/debris present in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION

	method	limit/base	current	history 1	history 2
Sample Number	Client Info		NX011505	---	---
Sample Date	Client Info		19 Jan 2023	---	---
Machine Age	hrs	Client Info	0	---	---
Oil Age	hrs	Client Info	0	---	---
Oil Changed	Client Info		N/A	---	---
Sample Status			SEVERE	---	---

WEAR METALS

	method	limit/base	current	history 1	history 2
Iron	ppm	ASTM D5185m >55	167	---	---
Chromium	ppm	ASTM D5185m >2	1	---	---
Nickel	ppm	ASTM D5185m >2	2	---	---
Titanium	ppm	ASTM D5185m >10	0	---	---
Silver	ppm	ASTM D5185m	0	---	---
Aluminum	ppm	ASTM D5185m >15	0	---	---
Lead	ppm	ASTM D5185m >3	1	---	---
Copper	ppm	ASTM D5185m >7	7	---	---
Tin	ppm	ASTM D5185m >3	<1	---	---
Vanadium	ppm	ASTM D5185m	0	---	---
Cadmium	ppm	ASTM D5185m	0	---	---

ADDITIVES

	method	limit/base	current	history 1	history 2
Boron	ppm	ASTM D5185m 25	9	---	---
Barium	ppm	ASTM D5185m	0	---	---
Molybdenum	ppm	ASTM D5185m	<1	---	---
Manganese	ppm	ASTM D5185m	2	---	---
Magnesium	ppm	ASTM D5185m	1	---	---
Calcium	ppm	ASTM D5185m 17	23	---	---
Phosphorus	ppm	ASTM D5185m 200	228	---	---
Zinc	ppm	ASTM D5185m	<1	---	---
Sulfur	ppm	ASTM D5185m 5000	5783	---	---

CONTAMINANTS

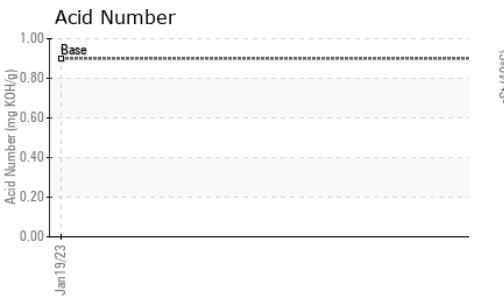
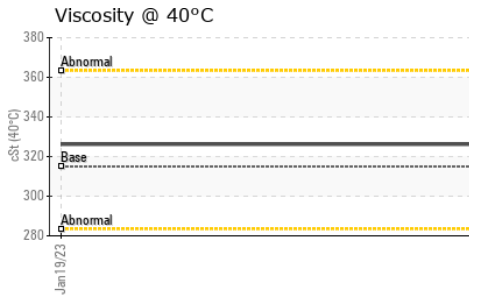
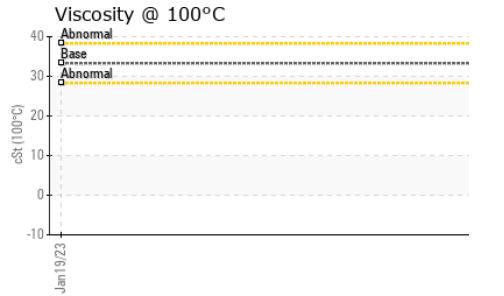
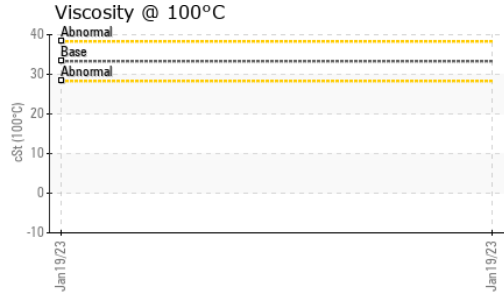
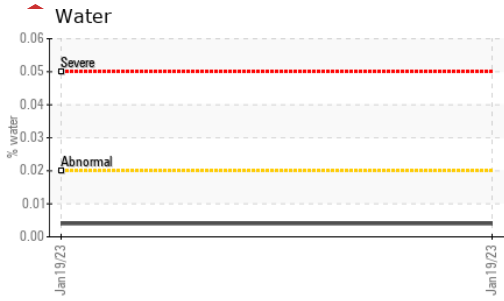
	method	limit/base	current	history 1	history 2
Silicon	ppm	ASTM D5185m >35	18	---	---
Sodium	ppm	ASTM D5185m	3	---	---
Potassium	ppm	ASTM D5185m >20	2	---	---
Water	%	ASTM D6304 >0.02	0.004	---	---
ppm Water	ppm	ASTM D6304 >200	44.3	---	---

VISUAL

	method	limit/base	current	history 1	history 2
White Metal	scalar	*Visual NONE	MODER	---	---
Yellow Metal	scalar	*Visual NONE	NONE	---	---
Precipitate	scalar	*Visual NONE	NONE	---	---
Silt	scalar	*Visual NONE	LIGHT	---	---
Debris	scalar	*Visual NONE	MODER	---	---
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	---	---



OIL ANALYSIS REPORT

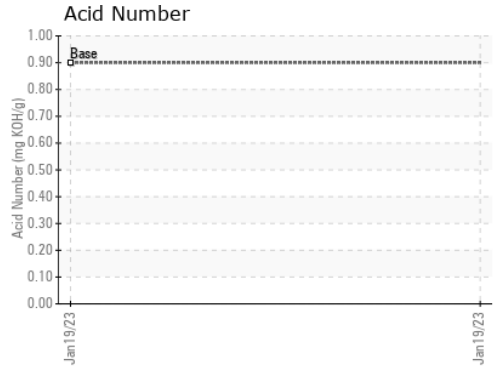
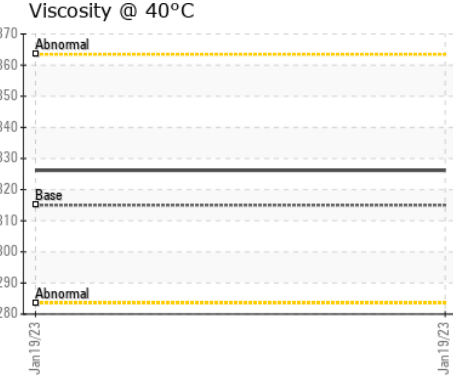
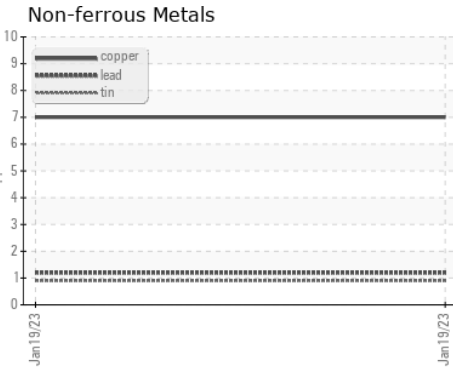
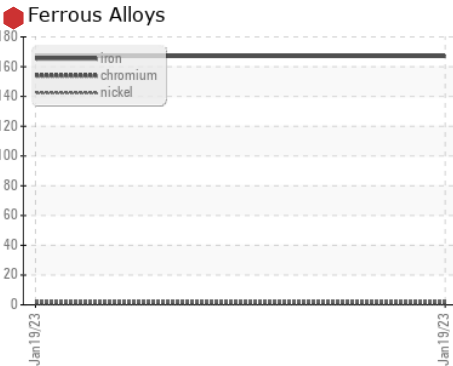


FLUID PROPERTIES		method	limit/base	current	history 1	history 2
Visc @ 40°C	cSt	ASTM D445	315	326.2	---	---

SAMPLE IMAGES		method	limit/base	current	history 1	history 2
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Color			no image	no image
Bottom			no image	no image

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : NX011505 **Received** : 02 Feb 2023
Lab Number : 05757522 **Diagnosed** : 06 Feb 2023
Unique Number : 10322129 **Diagnostician** : Doug Bogart
Test Package : IND 2 (Additional Tests: FT-IR, ICP-NewOil, KF, KV100, PQ, PrtCount, VI)

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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)