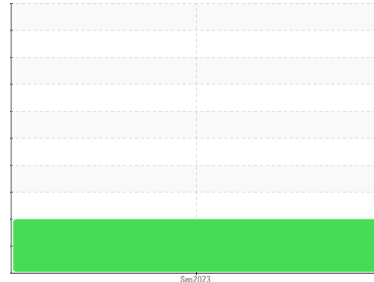




PROBLEM SUMMARY

Sample Rating Trend

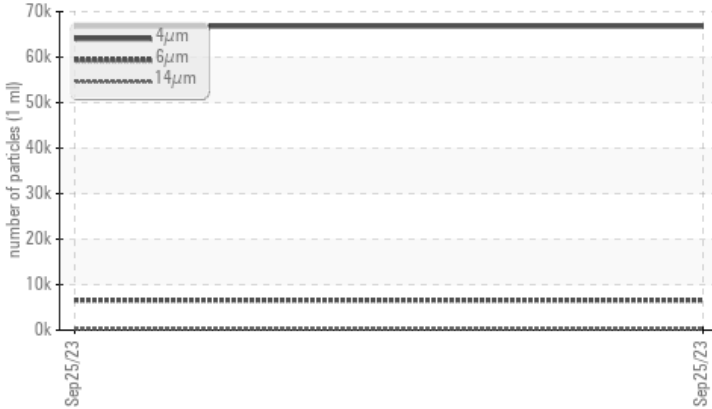
ISO



Area
IRON STAR [200006142]
 Machine Id
08WEA88301
 Component
Wind Turbine Gearbox
 Fluid
GEAR OIL (PAO) ISO 320 (--- LTR)

COMPONENT CONDITION SUMMARY

▲ Particle Trend



RECOMMENDATION

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

PROBLEMATIC TEST RESULTS

Sample Status				ABNORMAL	---	---
Particles >6µm	ASTM D7647	>320	▲ 6580	---	---	---
Particles >14µm	ASTM D7647	>40	▲ 325	---	---	---
Particles >21µm	ASTM D7647	>10	▲ 105	---	---	---
Particles >38µm	ASTM D7647	>3	▲ 7	---	---	---
Oil Cleanliness	ISO 4406 (c)	>--/15/12	▲ 23/20/16	---	---	---

Customer Id: NORDEX
 Sample No.: NX05961221
 Lab Number: 05961221
 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
 Don Baldrige +1
don.b505@comcast.net

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

RECOMMENDED ACTIONS

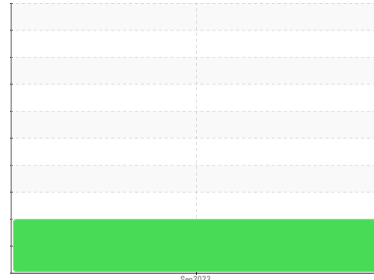
Action	Status	Date	Done By	Description
Change Filter	---	---	?	We recommend you service the filters on this component if applicable.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Area
IRON STAR [200006142]
 Machine Id
08WEA88301
 Component
Wind Turbine Gearbox
 Fluid
GEAR OIL (PAO) ISO 320 (--- 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	NX05961221	---	---
Sample Date	Client Info	25 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	15	---	---
Iron	ppm ASTM D5185m >30	20	---	---
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	<1	---	---
Tin	ppm ASTM D5185m >10	<1	---	---
Vanadium	ppm ASTM D5185m	<1	---	---
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m 25	8	---	---
Barium	ppm ASTM D5185m 12	0	---	---
Molybdenum	ppm ASTM D5185m 5	0	---	---
Manganese	ppm ASTM D5185m	<1	---	---
Magnesium	ppm ASTM D5185m 25	0	---	---
Calcium	ppm ASTM D5185m 25	42	---	---
Phosphorus	ppm ASTM D5185m 375	206	---	---
Zinc	ppm ASTM D5185m 25	3	---	---
Sulfur	ppm ASTM D5185m 4900	5538	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >+15	7	---	---
Sodium	ppm ASTM D5185m	2	---	---
Potassium	ppm ASTM D5185m >20	1	---	---
Water	% ASTM D6304 >0.02	0.003	---	---
ppm Water	ppm ASTM D6304 >200	28.0	---	---

FLUID CLEANLINESS

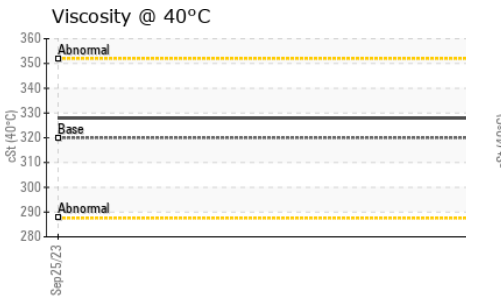
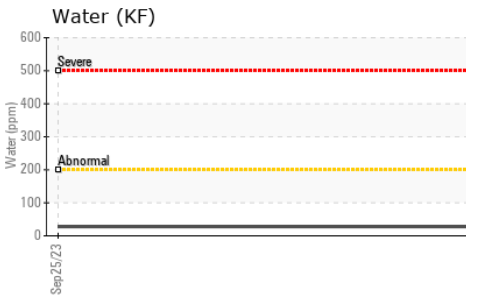
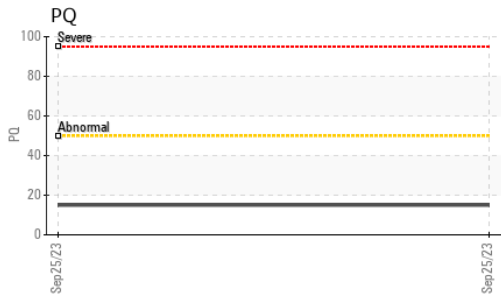
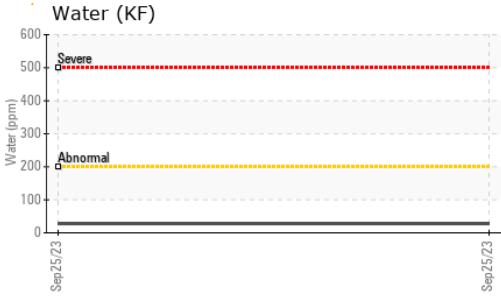
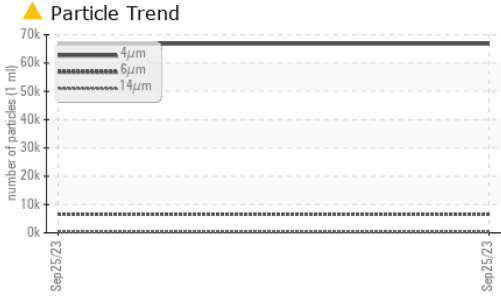
method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	66780	---	---
Particles >6µm	ASTM D7647 >320	▲ 6580	---	---
Particles >14µm	ASTM D7647 >40	▲ 325	---	---
Particles >21µm	ASTM D7647 >10	▲ 105	---	---
Particles >38µm	ASTM D7647 >3	▲ 7	---	---
Particles >71µm	ASTM D7647 >3	1	---	---
Oil Cleanliness	ISO 4406 (c) >--/15/12	▲ 23/20/16	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g ASTM D8045 1.10	0.37	---	---



OIL ANALYSIS REPORT



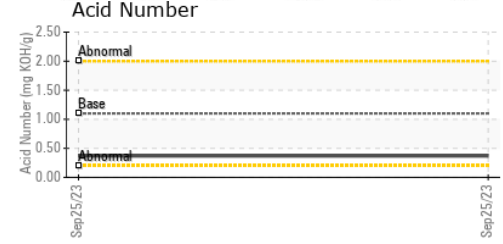
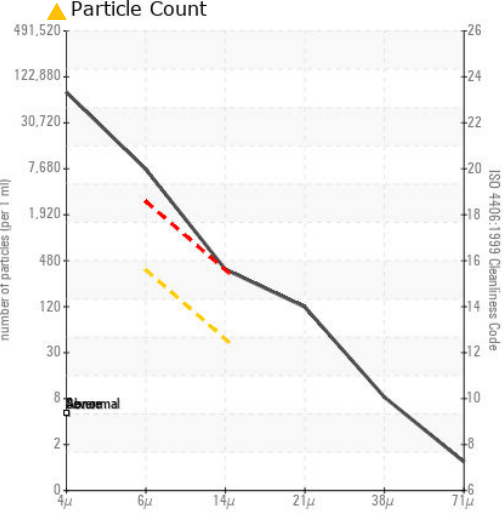
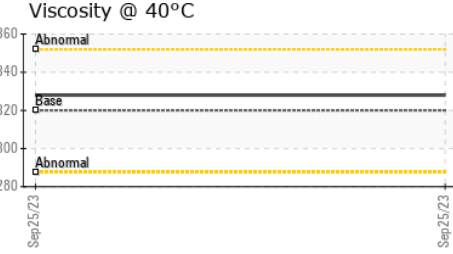
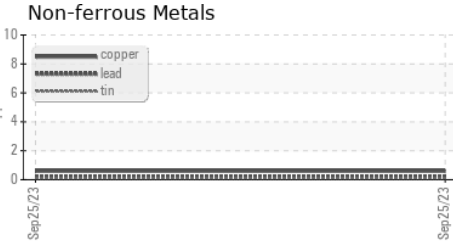
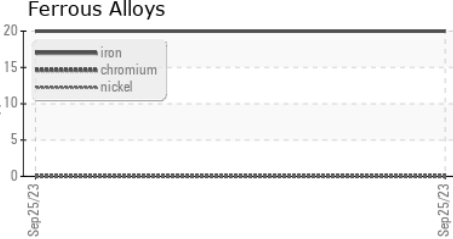
VISUAL	method	limit/base	current	history1	history2	
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---
Precipitate	scalar	*Visual	NONE	NONE	---	---
Silt	scalar	*Visual	NONE	NONE	---	---
Debris	scalar	*Visual	NONE	NONE	---	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---	---
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	328	---	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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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. : NX05961221 **Received** : 26 Sep 2023
Lab Number : **05961221** **Diagnosed** : 27 Sep 2023
Unique Number : 10662434 **Diagnostician** : Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

NORDEX USA - Chicago
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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)