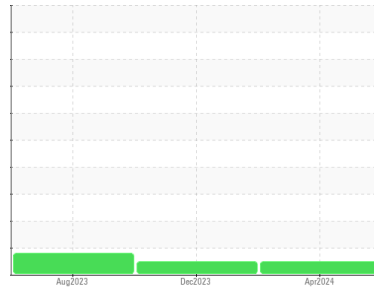




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
BEKEVAR [46004111]
 Machine Id
D623021 (S/N CM0088)
 Component
Wind Turbine Gearbox
 Fluid
SHELL OMALA S5 WIND 320 (--- 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			NX014232	NX014208	NX013329
Sample Date	Client Info			26 Apr 2024	19 Dec 2023	24 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed	Client Info			Not Changed	Not Changed	Not Changed
Sample Status				NORMAL	NORMAL	ATTENTION

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184		16	16	8
Iron	ppm	ASTM D5185m	>200	0	0	1
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m		0	0	<1
Lead	ppm	ASTM D5185m		0	0	0
Copper	ppm	ASTM D5185m		<1	0	0
Tin	ppm	ASTM D5185m		0	0	0
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	0	0
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	<1
Manganese	ppm	ASTM D5185m		<1	0	<1
Magnesium	ppm	ASTM D5185m		0	0	4
Calcium	ppm	ASTM D5185m		0	0	0
Phosphorus	ppm	ASTM D5185m		486	440	538
Zinc	ppm	ASTM D5185m		0	3	3
Sulfur	ppm	ASTM D5185m		3862	3399	4335

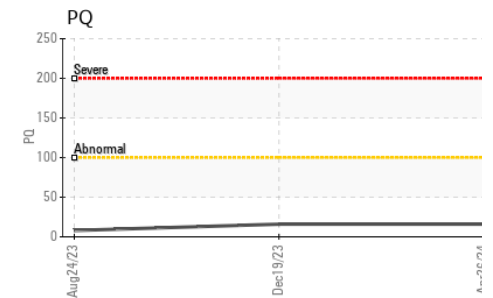
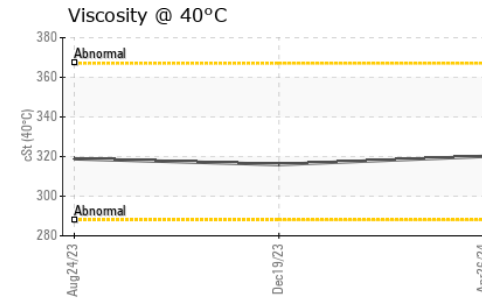
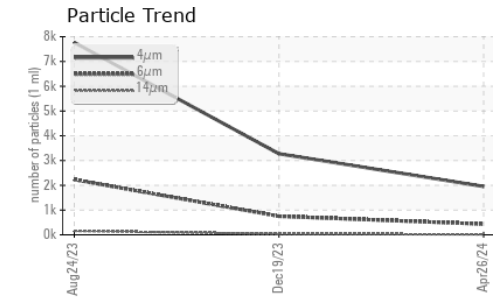
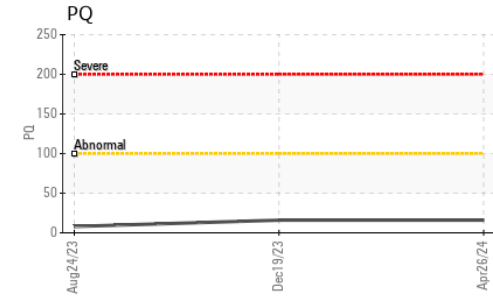
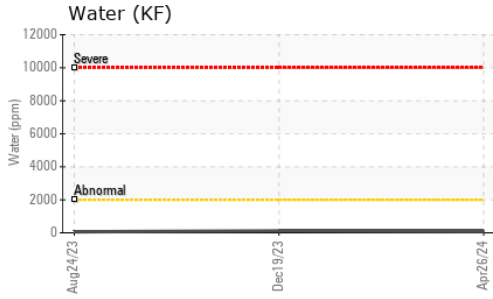
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m		<1	0	2
Sodium	ppm	ASTM D5185m		<1	0	<1
Potassium	ppm	ASTM D5185m	>20	0	<1	0
Water	%	ASTM D6304	>0.2	0.007	0.012	0.006
ppm Water	ppm	ASTM D6304	>2000	72	123	60.5

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		1954	3274	7767
Particles >6µm		ASTM D7647	>1300	436	749	2230
Particles >14µm		ASTM D7647	>160	17	34	156
Particles >21µm		ASTM D7647	>40	5	7	40
Particles >38µm		ASTM D7647	>10	1	1	2
Particles >71µm		ASTM D7647	>3	1	1	1
Oil Cleanliness		ISO 4406 (c)	>17/14	16/11	17/12	18/14

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		0.93	0.93	0.91



OIL ANALYSIS REPORT



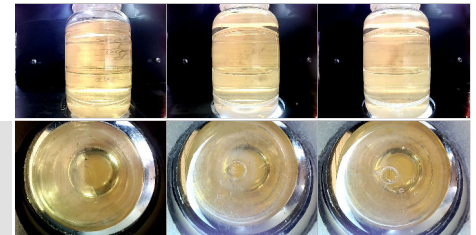
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320.1	316.0	318.9

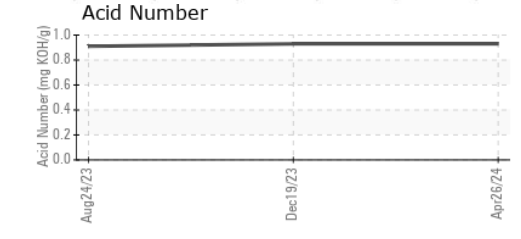
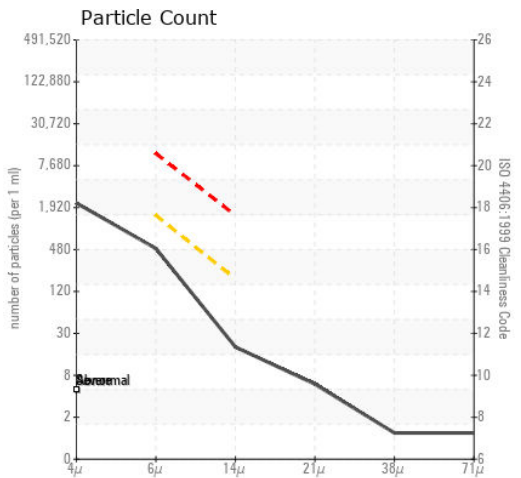
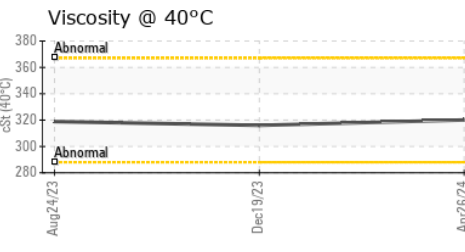
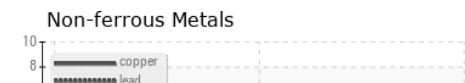
SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color

Bottom



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : NX014232

Lab Number : 06181860

Unique Number : 11033186

Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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)

Received : 16 May 2024

Tested : 20 May 2024

Diagnosed : 20 May 2024 - Angela Borella

NORDEX USA - Chicago

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CHICAGO, IL

US 60606

Contact: KEVIN REGAN

KRegan@nordex-online.com

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F: (312)386-7102

Contact/Location: KEVIN REGAN - NORDEX