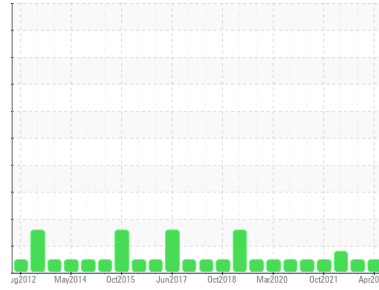




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**HINO [600380368]**

Machine Id  
**35WEA81853**

Component  
**Wind Turbine Gearbox**

Fluid  
**CASTROL OPTIGEAR SYNTHETIC X 320 (--- LTR)**

## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the component. The amount and size of particulates present in the system is acceptable.

### 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		<b>NX05928242</b>	NX05700267	NX05602756
Sample Date	Client Info		<b>19 Apr 2023</b>	10 Oct 2022	06 May 2022
Machine Age	mths	Client Info	<b>0</b>	0	0
Oil Age	mths	Client Info	<b>0</b>	0	0
Oil Changed	Client Info		<b>N/A</b>	N/A	N/A
Sample Status			<b>NORMAL</b>	NORMAL	ATTENTION

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>80	<b>14</b>	10	17
Iron	ppm	ASTM D5185m	>150	<1	<1
Chromium	ppm	ASTM D5185m	>5	0	0
Nickel	ppm	ASTM D5185m	>10	<1	<1
Titanium	ppm	ASTM D5185m	>10	0	0
Silver	ppm	ASTM D5185m		0	<1
Aluminum	ppm	ASTM D5185m	>10	<1	<1
Lead	ppm	ASTM D5185m	>20	0	<1
Copper	ppm	ASTM D5185m	>50	1	<1
Tin	ppm	ASTM D5185m	>10	0	<1
Antimony	ppm	ASTM D5185m	>5	---	---
Vanadium	ppm	ASTM D5185m		0	0
Cadmium	ppm	ASTM D5185m		0	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		0	40
Barium	ppm	ASTM D5185m		0	0
Molybdenum	ppm	ASTM D5185m	1150	<b>702</b>	700
Manganese	ppm	ASTM D5185m		0	0
Magnesium	ppm	ASTM D5185m		4	6
Calcium	ppm	ASTM D5185m	2000	<b>1253</b>	1321
Phosphorus	ppm	ASTM D5185m	400	<b>297</b>	317
Zinc	ppm	ASTM D5185m	0	0	0
Sulfur	ppm	ASTM D5185m	1850	<b>1875</b>	2057

## CONTAMINANTS

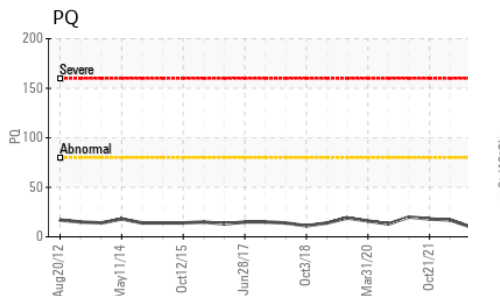
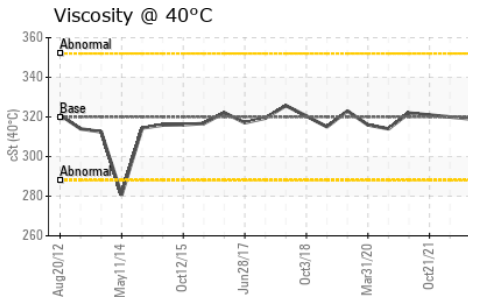
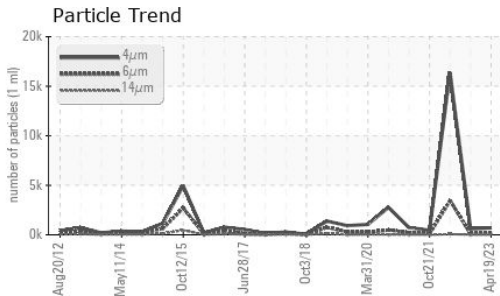
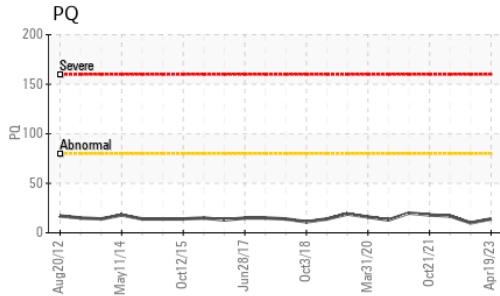
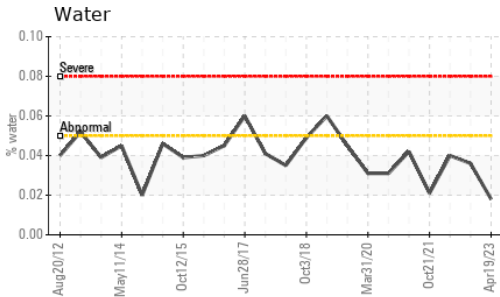
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	7	8
Sodium	ppm	ASTM D5185m	>20	4	4
Potassium	ppm	ASTM D5185m	>20	1	0
Water	%	ASTM D6304	>0.05	<b>0.018</b>	0.036
ppm Water	ppm	ASTM D6304	>500	<b>187.4</b>	360.1

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>704</b>	590	16377
Particles >6µm	ASTM D7647	>2500	<b>150</b>	125	▲ 3458
Particles >14µm	ASTM D7647	>320	<b>19</b>	14	67
Particles >21µm	ASTM D7647	>80	<b>7</b>	4	5
Particles >38µm	ASTM D7647	>20	<b>1</b>	1	1
Particles >71µm	ASTM D7647	>4	<b>1</b>	1	0
Oil Cleanliness	ISO 4406 (c)	>--/18/15	<b>17/14/11</b>	16/14/11	▲ 21/19/13



# OIL ANALYSIS REPORT



FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.6	<b>0.60</b>	0.61	0.69

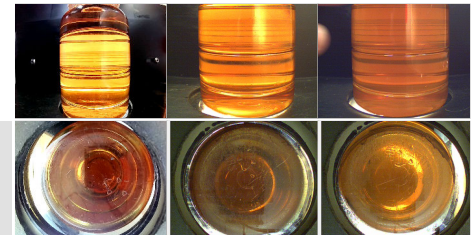
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>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

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	320	<b>318</b>	319	320

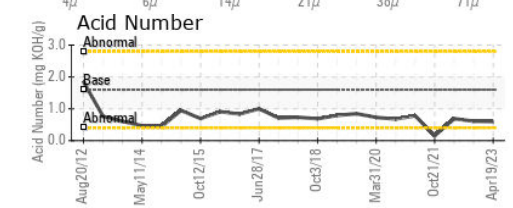
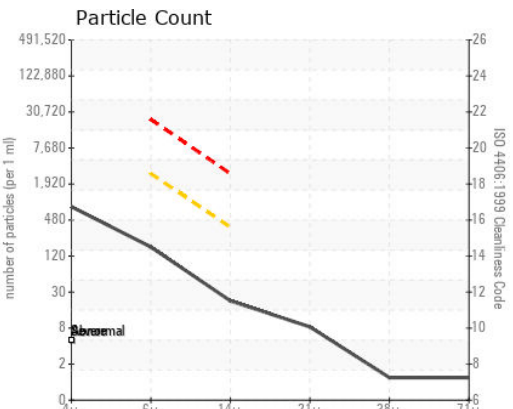
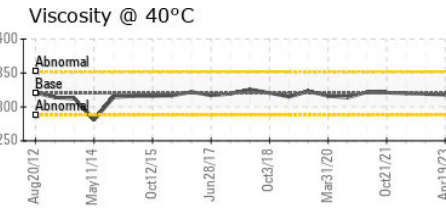
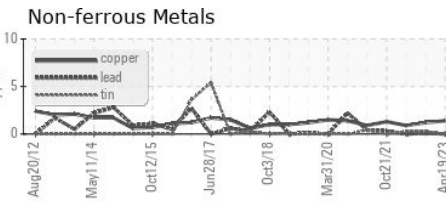
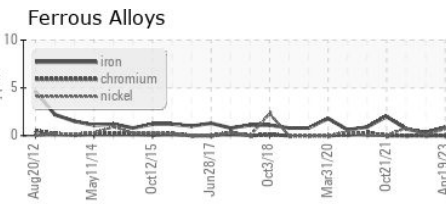
SAMPLE IMAGES		method	limit/base	current	history1	history2
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Color

Bottom



## GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
 Sample No. : NX05928242  
 Lab Number : **05928242**  
 Unique Number : 10608189  
 Test Package : IND 2 ( Additional Tests: KF, PQ, PrtCount )

NORDEX USA - HIGHLAND & HIGHLAND NORTH  
 300 SOUTH WACKER DRIVE, SUITE 1500  
 CHICAGO, IL  
 US 60606

Contact: Robert Warner  
 rwarner@everpower.com

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)

T: x:  
 F: x: