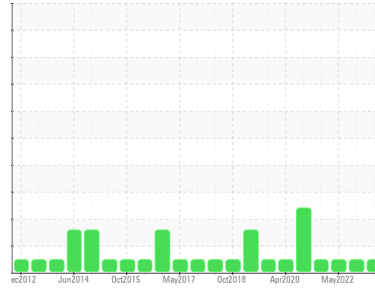




# OIL ANALYSIS REPORT

Sample Rating Trend



**NORMAL**



Area  
**HINO [600380372]**

Machine Id  
**39WEA81855**

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 oil. The amount and size of particulates present in the system are 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>NX05928224</b>	NX05700244	NX05602759
Sample Date	Client Info		<b>04 May 2023</b>	10 Oct 2022	26 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	NORMAL

## WEAR METALS

	method	limit/base	current	history1	history2
PQ	ASTM D8184	>80	<b>14</b>	7	19
Iron	ppm	ASTM D5185m	>150	<b>1</b>	<1
Chromium	ppm	ASTM D5185m	>5	<b>0</b>	0
Nickel	ppm	ASTM D5185m	>10	<b>0</b>	0
Titanium	ppm	ASTM D5185m	>10	<b>0</b>	0
Silver	ppm	ASTM D5185m		<b>0</b>	<1
Aluminum	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0
Lead	ppm	ASTM D5185m	>20	<b>0</b>	0
Copper	ppm	ASTM D5185m	>50	<b>&lt;1</b>	<1
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1
Antimony	ppm	ASTM D5185m	>5	<b>---</b>	---
Vanadium	ppm	ASTM D5185m		<b>0</b>	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		<b>0</b>	45
Barium	ppm	ASTM D5185m		<b>0</b>	0
Molybdenum	ppm	ASTM D5185m	1150	<b>793</b>	757
Manganese	ppm	ASTM D5185m		<b>0</b>	0
Magnesium	ppm	ASTM D5185m		<b>5</b>	7
Calcium	ppm	ASTM D5185m	2000	<b>1432</b>	1522
Phosphorus	ppm	ASTM D5185m	400	<b>320</b>	335
Zinc	ppm	ASTM D5185m	0	<b>0</b>	0
Sulfur	ppm	ASTM D5185m	1850	<b>1866</b>	2064

## CONTAMINANTS

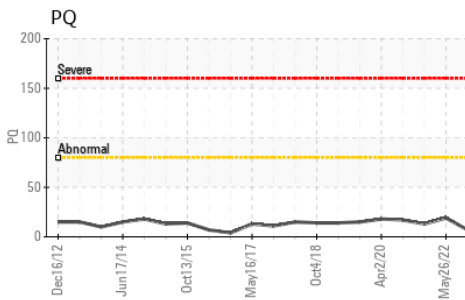
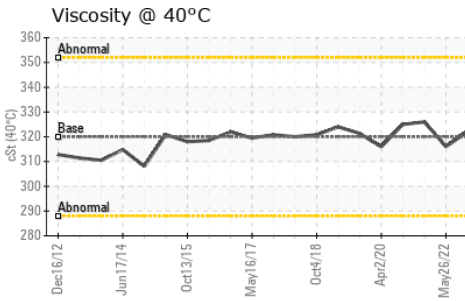
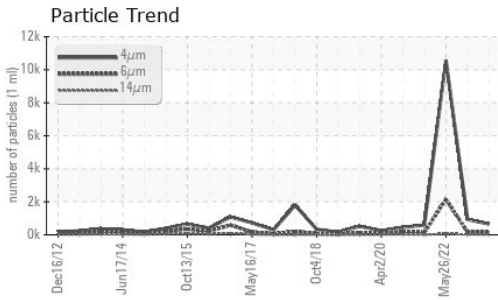
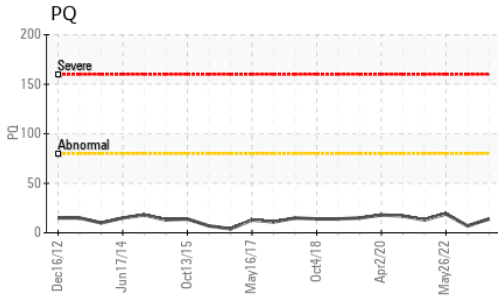
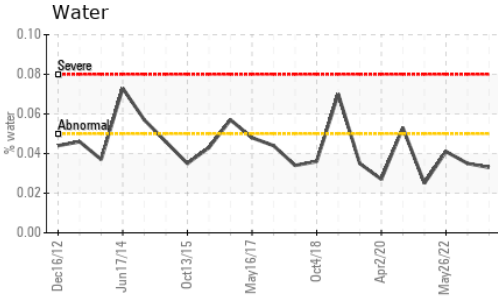
	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>50	<b>9</b>	9
Sodium	ppm	ASTM D5185m	>20	<b>5</b>	5
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0
Water	%	ASTM D6304	>0.05	<b>0.033</b>	0.035
ppm Water	ppm	ASTM D6304	>500	<b>339.0</b>	353.6

## FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647		<b>654</b>	922	10563
Particles >6µm	ASTM D7647	>2500	<b>151</b>	172	2146
Particles >14µm	ASTM D7647	>320	<b>13</b>	18	56
Particles >21µm	ASTM D7647	>80	<b>3</b>	5	9
Particles >38µm	ASTM D7647	>20	<b>0</b>	1	4
Particles >71µm	ASTM D7647	>4	<b>0</b>	1	3
Oil Cleanliness	ISO 4406 (c)	>--/18/15	<b>17/14/11</b>	17/15/11	21/18/13



# OIL ANALYSIS REPORT

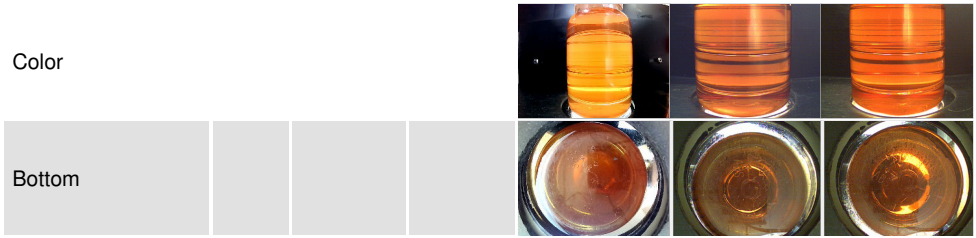


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	1.6	<b>0.75</b>	0.68	0.71

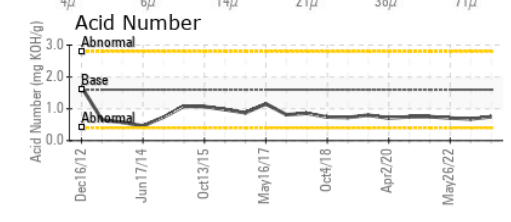
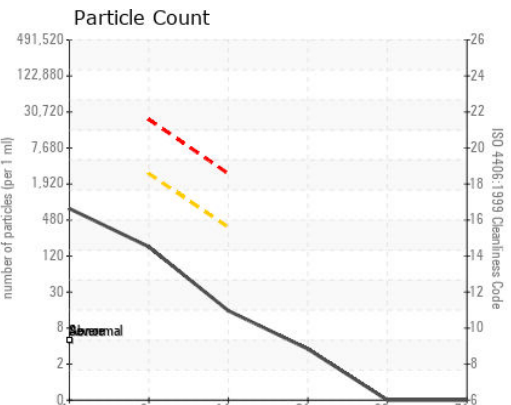
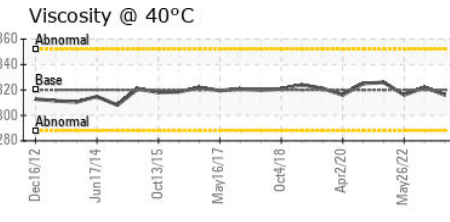
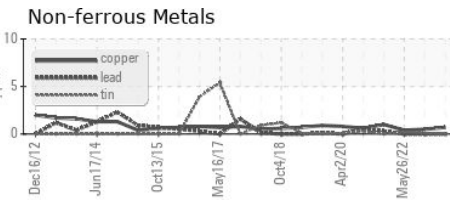
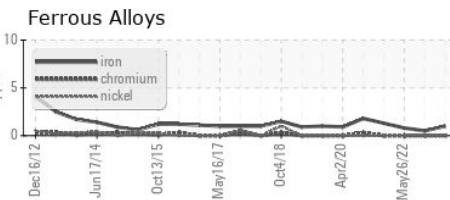
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Precipitate	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
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>316</b>	322	316

SAMPLE IMAGES		method	limit/base	current	history1	history2
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## GRAPHS



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : NX05928224 **Received** : 18 Aug 2023  
**Lab Number** : **05928224** **Diagnosed** : 22 Aug 2023  
**Unique Number** : 10608171 **Diagnostician** : Jonathan Hester

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

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)

Contact: Robert Warner  
rwarner@everpower.com

T: x:  
F: x: