

## **OIL ANALYSIS REPORT**

### BLACKJACK CREEK 12WEA88416 - C-01 (S/N 11585998) Component

Wind Turbine Gearbox

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

#### SAMPLE INFORMATION method limit/base current history1 history2 NX011543 Sample Number **Client Info** 05 Jan 2023 Sample Date Client Info Client Info 2426 Machine Age hrs Oil Age hrs Client Info 0 Oil Changed N/A **Client Info** Sample Status ABNORMAL WEAR METALS method limit/base current history1 history2 PQ >40 23 ASTM D8184 ASTM D5185m >55 40 Iron ppm Chromium ppm ASTM D5185m >2 0 ASTM D5185m >2 Nickel 0 ppm Titanium ppm ASTM D5185m >10 0 Silver ASTM D5185m 0 ppm Aluminum ASTM D5185m >15 0 ppm Lead ASTM D5185m >3 <1 ppm Copper ppm ASTM D5185m >7 <1 ASTM D5185m >3 0 Tin ppm Vanadium ppm ASTM D5185m 0 Cadmium ASTM D5185m 0 ppm **ADDITIVES** method limit/base current historv1 historv2 Boron ppm ASTM D5185m 25 6 ASTM D5185m 0 Barium ppm 0 Molvbdenum ppm ASTM D5185m Manganese ASTM D5185m <1 ppm Magnesium ASTM D5185m <1 ppm Calcium ppm ASTM D5185m 17 19 Phosphorus ASTM D5185m 200 216 ppm Zinc ASTM D5185m 9 ppm Sulfur ASTM D5185m 5000 4797 ppm CONTAMINANTS method limit/base current history1 history2 Silicon ASTM D5185m >35 ppm 10 Sodium ASTM D5185m 0 ppm >20 2 Potassium ppm ASTM D5185m % >0.02 0.010 Water ASTM D6304 ppm Water ppm ASTM D6304 >200 109.3 **FLUID CLEANLINESS** method limit/base history1 history2 current 293971 Particles >4µm ASTM D7647 Particles >6µm ASTM D7647 >320 132920 Particles >14µm ASTM D7647 >40 Particles >21µm ASTM D7647 >10 ASTM D7647 4 Particles >38µm >3 ---0 Particles >71um ASTM D7647 >3 **Oil Cleanliness** ISO 4406 (c) >--/15/12 25/24/17 **FLUID DEGRADATION** method limit/base history1 history2 current

Acid Number (AN)

mg KOH/g ASTM D8045 0.9

Contact/Location: DEVIN LINEHAN - NORDEX

0.39

Report Id: NORDEX [WUSCAR] 05744628 (Generated: 03/08/2024 05:54:48) Rev: 1

DIAGNOSIS

### Recommendation

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

#### Wear

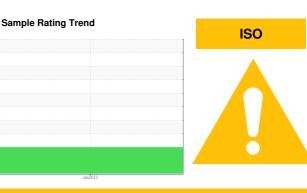
All component wear rates are normal.

#### Contamination

There is a high amount of particulates present in the oil.

#### Fluid Condition

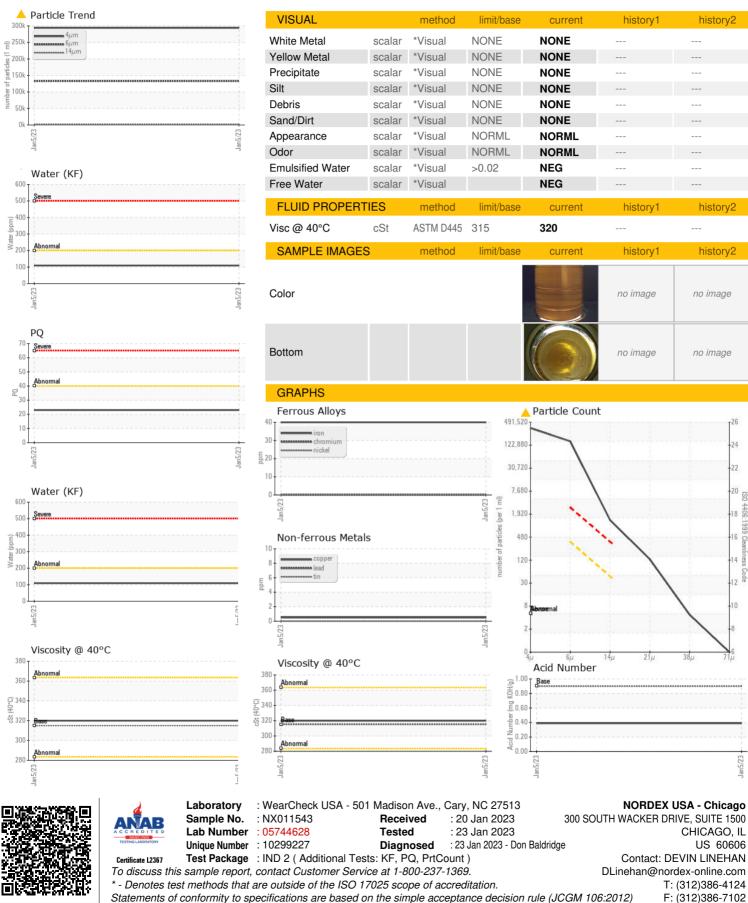
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.





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384

**NORDEX USA - Chicago** 

history1

history

history1

history2

history

history2

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