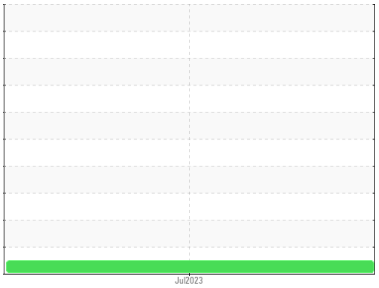
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
**PRIDDY [200005313]**
Machine Id
**32WEA88821 - G3**
Component
**Wind Turbine Gearbox**
Fluid
**FUCHS RENOLIN UNISYN CLP 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 | | **NX010216** | --- | --- |
| Sample Date | | Client Info | | **06 Jul 2023** | --- | --- |
| Machine Age | hrs | Client Info | | **23170** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **NORMAL** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184 | >50 | **14** | --- | --- |
| Iron | ppm | ASTM D5185m | >30 | **16** | --- | --- |
| 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 | **2** | --- | --- |
| Copper | ppm | ASTM D5185m | >10 | **<1** | --- | --- |
| Tin | ppm | ASTM D5185m | >10 | **0** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185m | | **0** | --- | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **7** | --- | --- |
| Barium | ppm | ASTM D5185m | | **3** | --- | --- |
| Molybdenum | ppm | ASTM D5185m | | **0** | --- | --- |
| Manganese | ppm | ASTM D5185m | | **<1** | --- | --- |
| Magnesium | ppm | ASTM D5185m | | **<1** | --- | --- |
| Calcium | ppm | ASTM D5185m | | **24** | --- | --- |
| Phosphorus | ppm | ASTM D5185m | | **209** | --- | --- |
| Zinc | ppm | ASTM D5185m | | **7** | --- | --- |
| Sulfur | ppm | ASTM D5185m | | **5337** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >+15 | **4** | --- | --- |
| Sodium | ppm | ASTM D5185m | | **0** | --- | --- |
| Potassium | ppm | ASTM D5185m | >20 | **2** | --- | --- |
| Water | % | ASTM D6304 | >0.02 | **0.003** | --- | --- |
| ppm Water | ppm | ASTM D6304 | >200 | **30.3** | --- | --- |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **504** | --- | --- |
| Particles >6µm | | ASTM D7647 | >320 | **107** | --- | --- |
| Particles >14µm | | ASTM D7647 | >40 | **19** | --- | --- |
| Particles >21µm | | ASTM D7647 | >10 | **7** | --- | --- |
| Particles >38µm | | ASTM D7647 | >3 | **2** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **1** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >--/15/12 | **16/14/11** | --- | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.6 | **0.35** | --- | --- |

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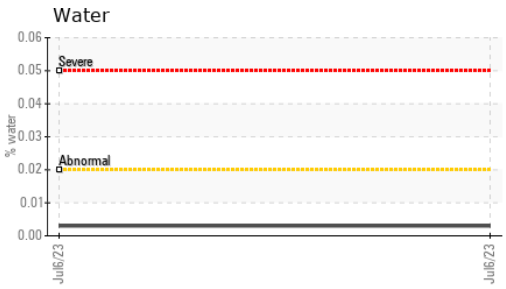
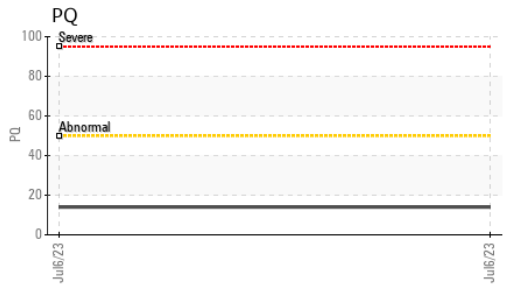
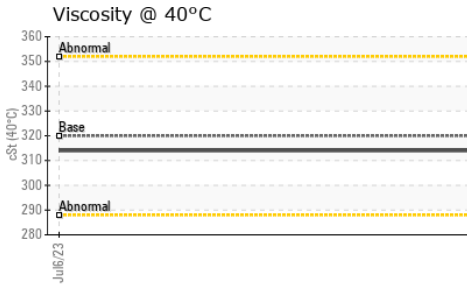
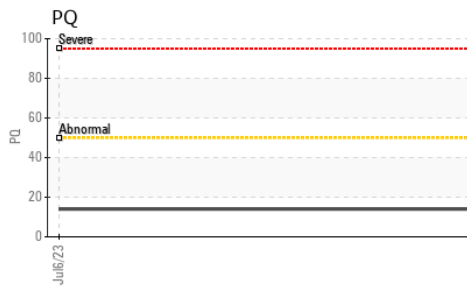






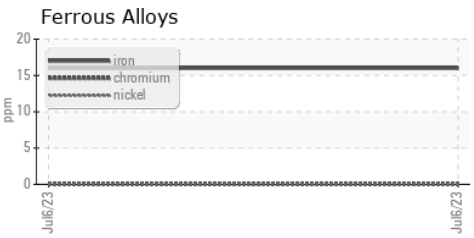



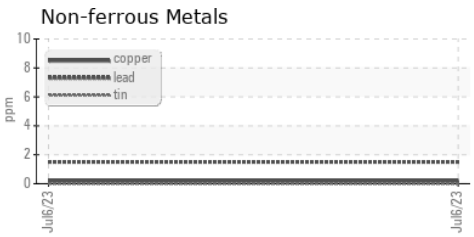

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | --- | --- |
| Precipitate | scalar | *Visual | NONE | **NONE** | --- | --- |
| Silt | 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** | --- | --- |

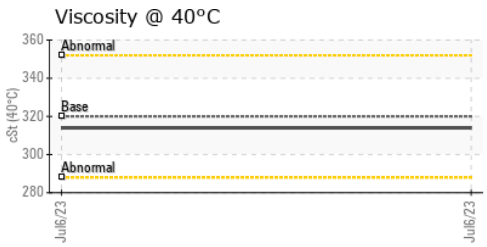
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 320 | **314** | --- | --- |

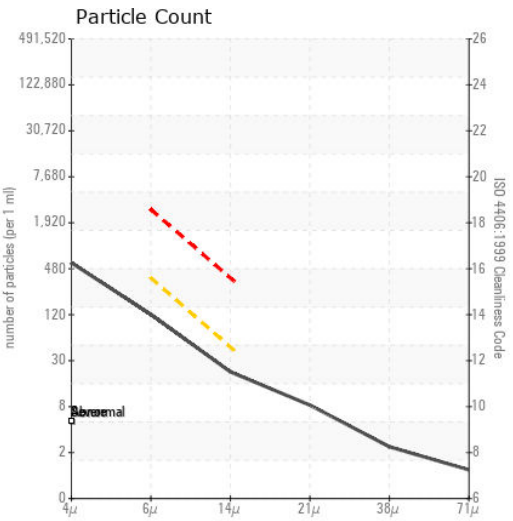
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | *no image* | *no image* |
| Bottom | | |  | *no image* | *no image* |

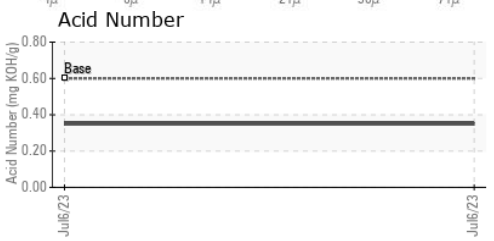
## GRAPHS




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : NX010216 **Received** : 24 Aug 2023
**Lab Number** : 05933565 **Diagnosed** : 25 Aug 2023
**Unique Number** : 10618836 **Diagnostician** : Don Baldridge
**Test Package** : IND 2 ( Additional Tests: KF, PQ, PrtCount )

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)*

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