



OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Area
MAGENTA NTX [200007685]
 Machine Id
07WEA91125 - E-18
 Component
Wind Turbine Gearbox
 Fluid
SHELL OMALA S5 WIND 320 (--- LTR)



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is a high amount of silt (particulates < 14 microns in size) present 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 | NX012260 | --- | --- |
| Sample Date | Client Info | 19 Feb 2024 | --- | --- |
| Machine Age | hrs Client Info | 0 | --- | --- |
| Oil Age | hrs Client Info | 0 | --- | --- |
| Oil Changed | Client Info | N/A | --- | --- |
| Sample Status | | ABNORMAL | --- | --- |

WEAR METALS

| method | limit/base | current | history1 | history2 |
|----------|---------------------|-----------|----------|----------|
| PQ | ASTM D8184 >50 | 15 | --- | --- |
| Iron | ppm ASTM D5185m >30 | 22 | --- | --- |
| 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 | 0 | --- | --- |
| Copper | ppm ASTM D5185m >10 | 0 | --- | --- |
| 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 | 0 | --- | --- |
| Barium | ppm ASTM D5185m | 0 | --- | --- |
| Molybdenum | ppm ASTM D5185m | 0 | --- | --- |
| Manganese | ppm ASTM D5185m | <1 | --- | --- |
| Magnesium | ppm ASTM D5185m | 1 | --- | --- |
| Calcium | ppm ASTM D5185m | 2 | --- | --- |
| Phosphorus | ppm ASTM D5185m | 459 | --- | --- |
| Zinc | ppm ASTM D5185m | 2 | --- | --- |
| Sulfur | ppm ASTM D5185m | 3805 | --- | --- |

CONTAMINANTS

| method | limit/base | current | history1 | history2 |
|-----------|----------------------|--------------|----------|----------|
| Silicon | ppm ASTM D5185m >+15 | 3 | --- | --- |
| Sodium | ppm ASTM D5185m | 1 | --- | --- |
| Potassium | ppm ASTM D5185m >20 | <1 | --- | --- |
| Water | % ASTM D6304 >0.02 | 0.007 | --- | --- |
| ppm Water | ppm ASTM D6304 >200 | 70 | --- | --- |

FLUID CLEANLINESS

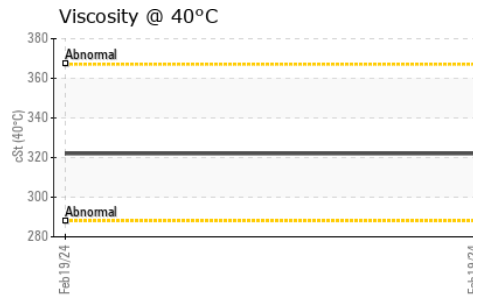
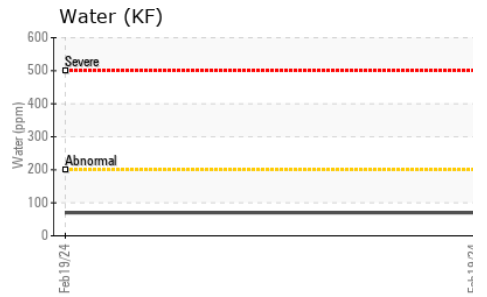
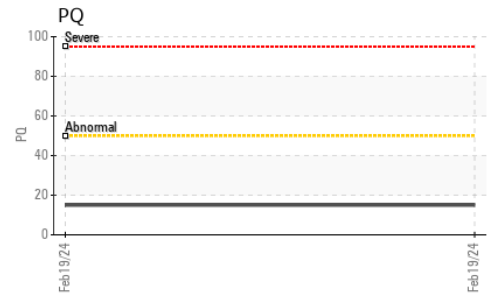
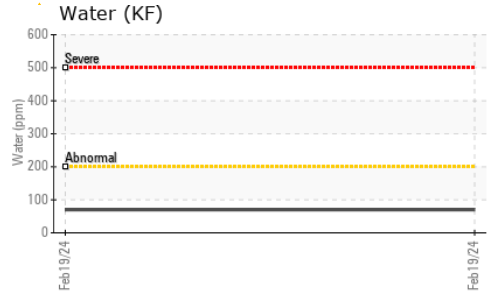
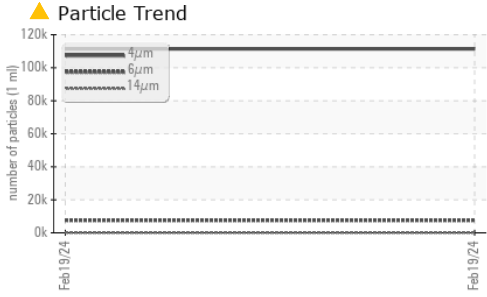
| method | limit/base | current | history1 | history2 |
|-----------------|---------------------|---------------|----------|----------|
| Particles >4µm | ASTM D7647 | 111378 | --- | --- |
| Particles >6µm | ASTM D7647 >1300 | 7578 | --- | --- |
| Particles >14µm | ASTM D7647 >160 | 102 | --- | --- |
| Particles >21µm | ASTM D7647 >40 | 24 | --- | --- |
| Particles >38µm | ASTM D7647 >10 | 1 | --- | --- |
| Particles >71µm | ASTM D7647 >3 | 0 | --- | --- |
| Oil Cleanliness | ISO 4406 (c) >17/14 | 20/14 | --- | --- |

FLUID DEGRADATION

| method | limit/base | current | history1 | history2 |
|------------------|---------------------|-------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D8045 | 1.01 | --- | --- |



OIL ANALYSIS REPORT



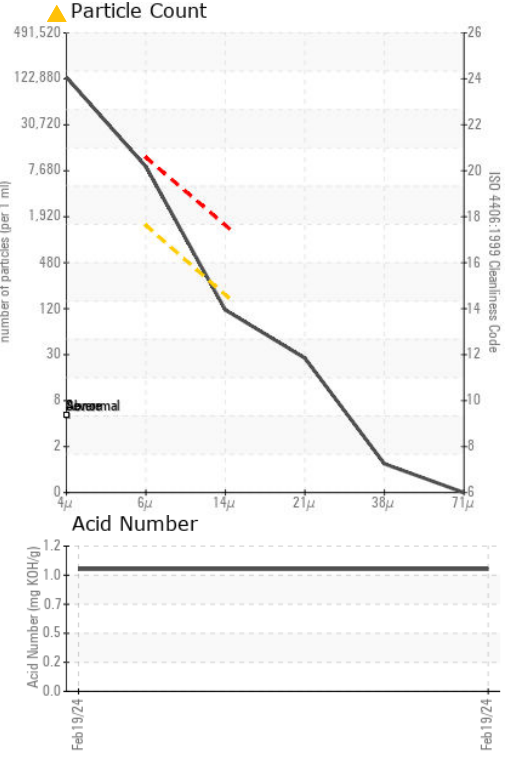
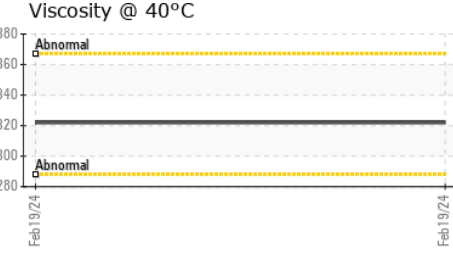
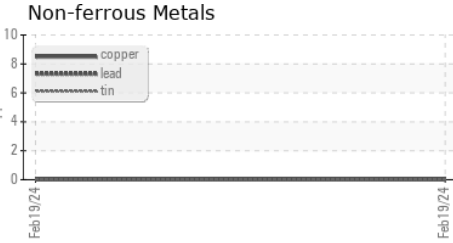
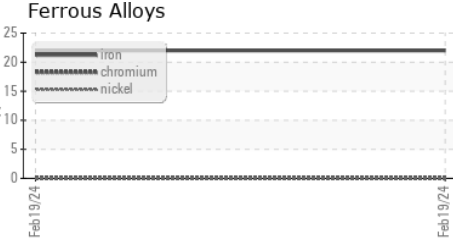
| VISUAL | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | --- |
| Yellow Metal | scalar | *Visual | NONE | NONE | --- |
| Precipitate | scalar | *Visual | NONE | NONE | --- |
| Silt | scalar | *Visual | NONE | NONE | --- |
| Debris | scalar | *Visual | NONE | LIGHT | --- |
| 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 | 322 | --- | --- |

| 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. : NX012260 **Received** : 21 Mar 2024
Lab Number : 06125625 **Tested** : 22 Mar 2024
Unique Number : 10939776 **Diagnosed** : 25 Mar 2024 - Don Baldrige
Test Package : IND 2 (Additional Tests: KF, PQ, PrtCount)

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To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)