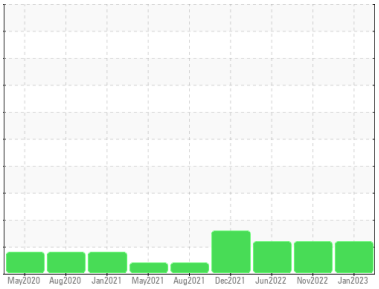
# PROBLEM SUMMARY

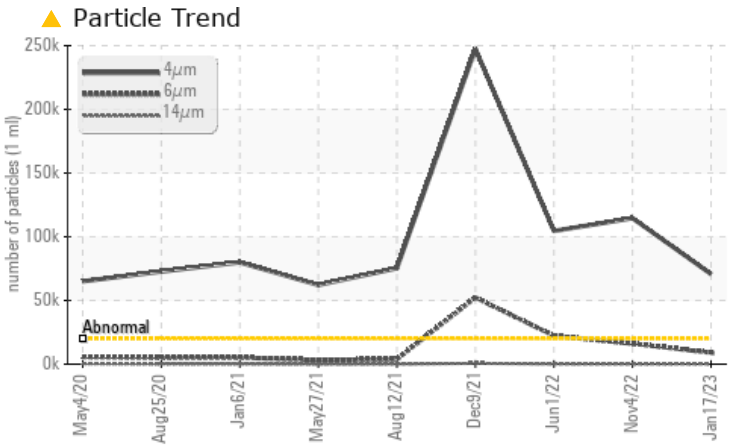
Sample Rating Trend




ISO

Area
**FERMENTATION**
Machine Id
**AAA Great Wall NEJ31JB01 - MAIN FERMENTOR AGITATOR**
Component
**Gearbox**
Fluid
**FUCHS CASSIDA GL 320 (135 LTR)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
| Particles >4µm | | ASTM D7647 | >20000 | ▲ **70738** | ▲ 114593 | ▲ 104521 |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **8962** | ▲ 16152 | ▲ 22284 |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | ▲ **23/20/14** | ▲ 24/21/14 | ▲ 24/22/15 |

**Customer Id:** NOVBLA
**Sample No.:** WC0768176
**Lab Number:** 05758813
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We recommend you service the filters on this component. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |

## HISTORICAL DIAGNOSIS

**04 Nov 2022 Diag: Wes Davis**

ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

**01 Jun 2022 Diag: Wes Davis**

ISO

We recommend you service the filters on this component. We recommend an early resample to monitor this condition.All component wear rates are normal. Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are abnormally high. The water content is negligible. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

view report

**09 Dec 2021 Diag: Doug Bogart**

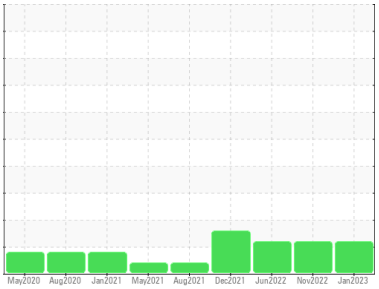
VISCOSITY

We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the oil. Viscosity of sample indicates oil is within ISO 320 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
**FERMENTATION**
Machine Id
**AAA Great Wall NEJ31JB01 - MAIN FERMENTOR AGITATOR**
Component
**Gearbox**
Fluid
**FUCHS CASSIDA GL 320 (135 LTR)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. We recommend an early resample to monitor this condition.

**Wear**
All component wear rates are normal.

**Contamination**
Oil Cleanliness are abnormally high. Particles >4µm are abnormally high. Particles >6µm are notably high. The water content is negligible.

**Fluid Condition**
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0768176** | WC0714668 | WC0654056 |
| Sample Date | | Client Info | | **17 Jan 2023** | 04 Nov 2022 | 01 Jun 2022 |
| Machine Age | mths | Client Info | | **0** | 0 | 0 |
| Oil Age | mths | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **6** | 9 | 6 |
| Chromium | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >100 | **0** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >200 | **0** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >25 | **0** | 0 | 0 |
| Antimony | ppm | ASTM D5185m | >5 | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **1** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Phosphorus | ppm | ASTM D5185m | | **497** | 514 | 507 |
| Zinc | ppm | ASTM D5185m | | **6** | 3 | 6 |
| Sulfur | ppm | ASTM D5185m | | **672** | 816 | 636 |

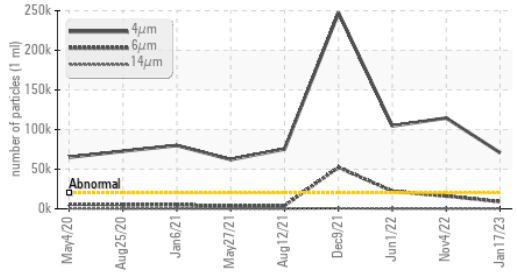
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **<1** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Water | % | ASTM D6304 | >0.2 | **0.004** | 0.003 | 0.005 |
| ppm Water | ppm | ASTM D6304 | >2000 | **47.5** | 39.6 | 53.6 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >20000 | ▲ **70738** | ▲ 114593 | ▲ 104521 |
| Particles >6µm | | ASTM D7647 | >5000 | ▲ **8962** | ▲ 16152 | ▲ 22284 |
| Particles >14µm | | ASTM D7647 | >640 | **137** | 127 | 185 |
| Particles >21µm | | ASTM D7647 | >160 | **8** | 11 | 28 |
| Particles >38µm | | ASTM D7647 | >40 | **1** | 0 | 2 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >21/19/16 | ▲ **23/20/14** | ▲ 24/21/14 | ▲ 24/22/15 |

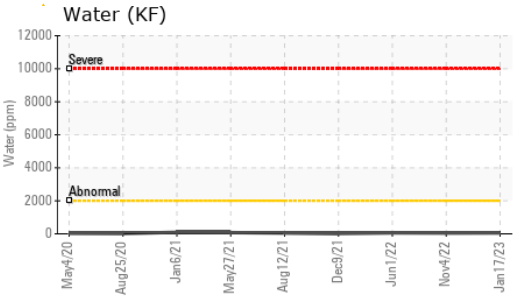
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.43** | 0.43 | 0.45 |

# OIL ANALYSIS REPORT

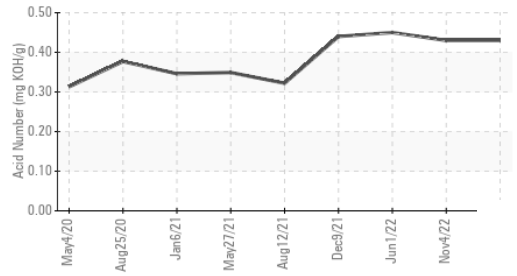
Particle Trend



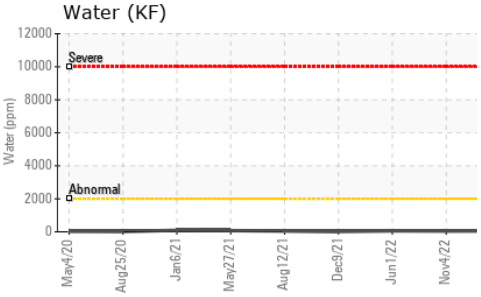

Water (KF)



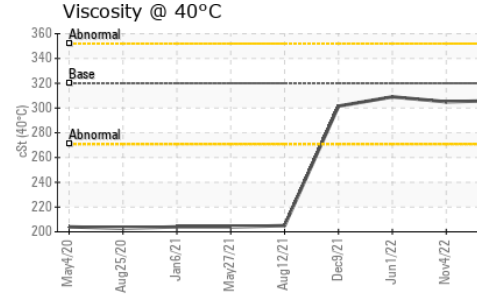

Acid Number




Water (KF)

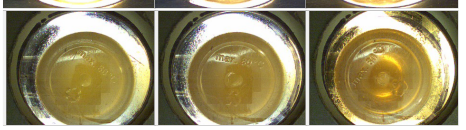



Viscosity @ 40°C



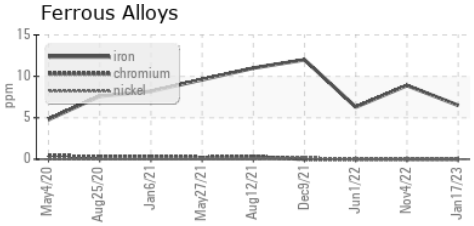

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Sand/Dirt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Appearance | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Odor | scalar | *Visual | NORML | **NORML** | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 320 | **306** | 305 | 309 |

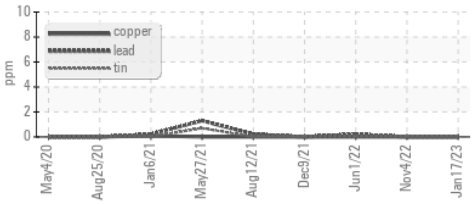
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

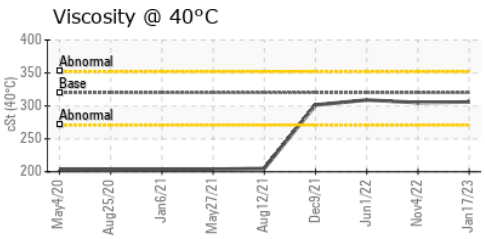
Ferrous Alloys



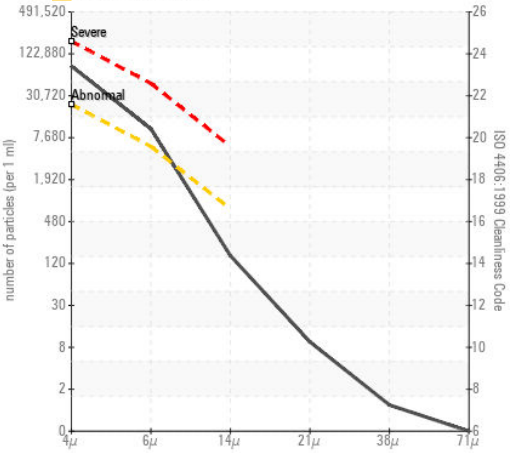

Non-ferrous Metals



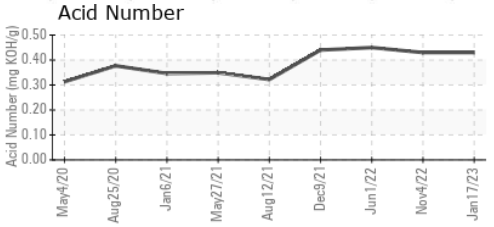

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0768176 **Received** : 03 Feb 2023
**Lab Number** : 05758813 **Diagnosed** : 06 Feb 2023
**Unique Number** : 10323420 **Diagnostician** : Wes Davis
**Test Package** : IND 2 ( Additional Tests: KF, PrtCount )

*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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