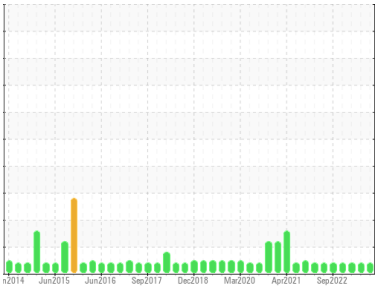
STAUFF FILTRATION TECHNOLOGY

# PROBLEM SUMMARY

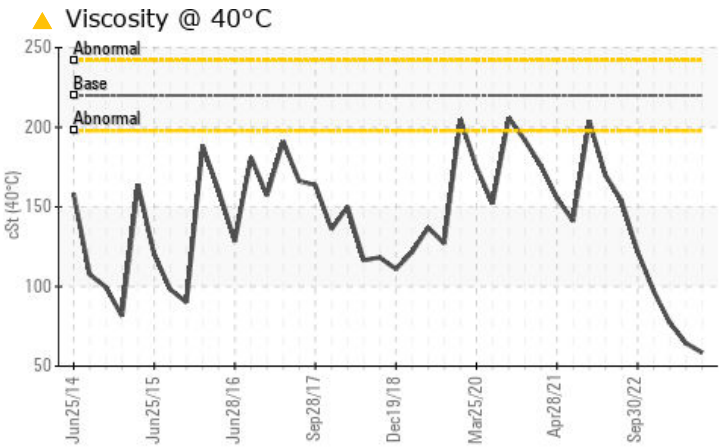
Sample Rating Trend



**VISCOSITY**

Machine Id
## 42 IN MILL 50
Component
**Gearbox**
Fluid
**GEAR OIL ISO 220 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

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

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ATTENTION | ATTENTION | ATTENTION |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 220 | ▲ **58.5** | ▲ 64.4 | ▲ 77.3 |

**Customer Id:** ZAPDAR
**Sample No.:** ST43711
**Lab Number:** 05967804
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Doug Bogart +1 (800)237-1369 x4016
dougb@wearcheckusa.com

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

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**29 Jun 2023 Diag: Don Baldridge**

VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is lower than normal. The AN level is acceptable for this fluid.

view report

**30 Mar 2023 Diag: Don Baldridge**

VISCOSITY

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is lower than normal. The AN level is acceptable for this fluid.

view report

**22 Dec 2022 Diag: Don Baldridge**

VISCOSITY

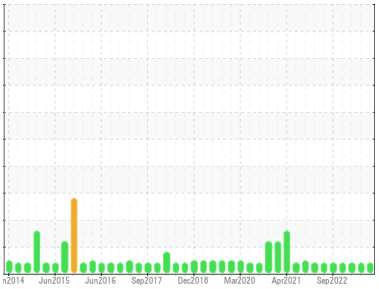
No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable. The oil viscosity is lower than normal. The AN level is acceptable for this fluid.

view report

STAUFF FILTRATION TECHNOLOGY

# OIL ANALYSIS REPORT

Sample Rating Trend




**VISCOSITY**

Machine Id
## 42 IN MILL 50
Component
**Gearbox**
Fluid
**GEAR OIL ISO 220 (--- GAL)**

## 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 no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

**Fluid Condition**
The oil viscosity is lower than normal. Confirm oil type. The AN level is acceptable for this fluid.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **ST43711** | ST43577 | ST44036 |
| Sample Date | | Client Info | | **28 Sep 2023** | 29 Jun 2023 | 30 Mar 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ATTENTION** | ATTENTION | ATTENTION |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **76** | 71 | 62 |
| Chromium | ppm | ASTM D5185m | >15 | **11** | 10 | 7 |
| Nickel | ppm | ASTM D5185m | >15 | **6** | 5 | 3 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | **0** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >100 | **<1** | <1 | 0 |
| Copper | ppm | ASTM D5185m | >200 | **3** | 2 | <1 |
| Tin | ppm | ASTM D5185m | >25 | **0** | 0 | 0 |
| 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 | 50 | **<1** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 15 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 15 | **<1** | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | **3** | 3 | 3 |
| Magnesium | ppm | ASTM D5185m | 50 | **0** | 0 | <1 |
| Calcium | ppm | ASTM D5185m | 50 | **7** | 4 | 5 |
| Phosphorus | ppm | ASTM D5185m | 350 | **284** | 283 | 312 |
| Zinc | ppm | ASTM D5185m | 100 | **0** | 0 | 0 |
| Sulfur | ppm | ASTM D5185m | 12500 | **8194** | 8178 | 11092 |

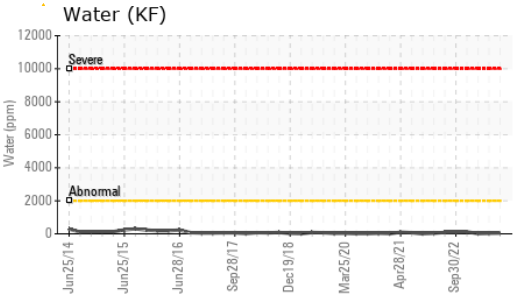
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **2** | 1 | 1 |
| Sodium | ppm | ASTM D5185m | | **<1** | 0 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |
| Water | % | ASTM D6304 | >0.2 | **0.004** | 0.003 | 0.002 |
| ppm Water | ppm | ASTM D6304 | >2000 | **43.9** | 32.4 | 15.5 |

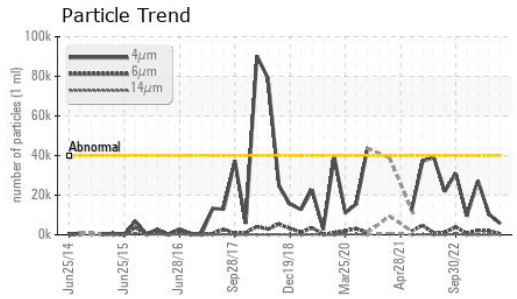
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >40000 | **5709** | 10422 | 27375 |
| Particles >6µm | | ASTM D7647 | >5000 | **536** | 1880 | 2185 |
| Particles >14µm | | ASTM D7647 | >640 | **37** | 145 | 88 |
| Particles >21µm | | ASTM D7647 | >160 | **9** | 36 | 17 |
| Particles >38µm | | ASTM D7647 | >40 | **0** | 2 | 1 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >22/19/16 | **20/16/12** | 21/18/14 | 22/18/14 |

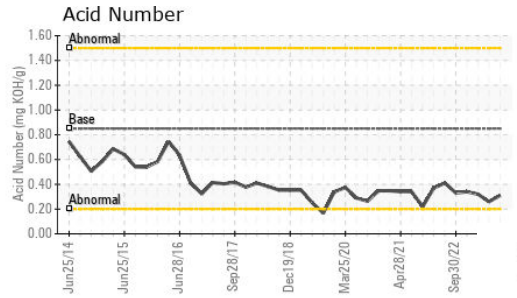
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.85 | **0.31** | 0.26 | 0.32 |

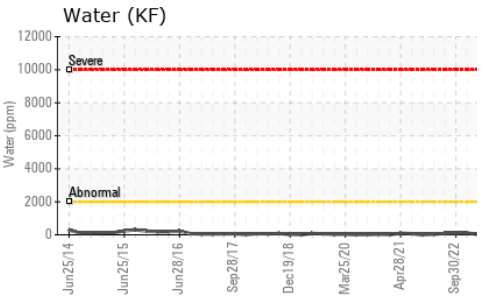
STAUFF
FILTRATION TECHNOLOGY

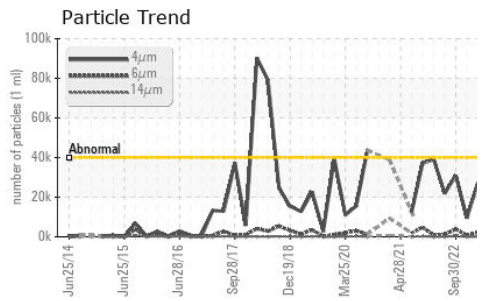
# OIL ANALYSIS REPORT



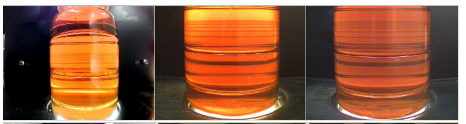
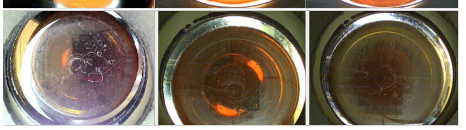



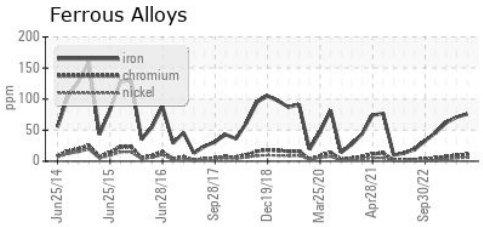



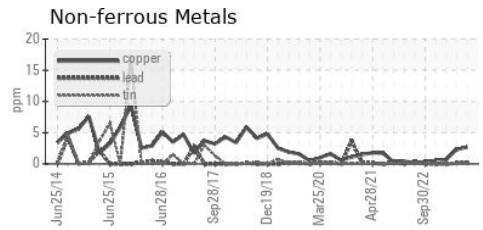

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | LIGHT | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

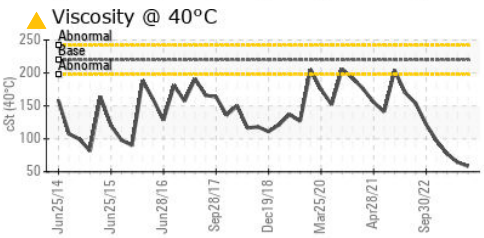
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 220 | ▲ **58.5** | ▲ 64.4 | ▲ 77.3 |

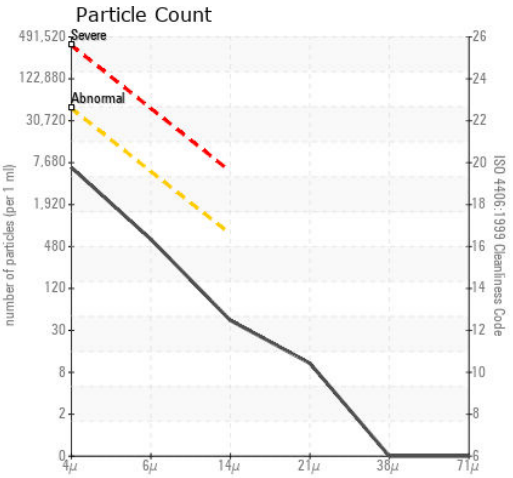
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

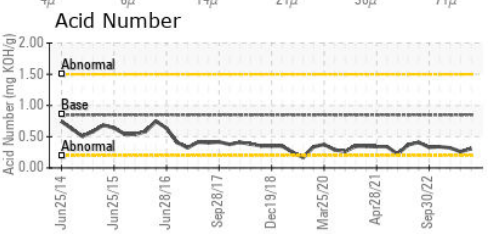
## GRAPHS




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : ST43711 **Received** : 03 Oct 2023
**Lab Number** : 05967804 **Diagnosed** : 04 Oct 2023
**Unique Number** : 10674355 **Diagnostician** : Doug Bogart
**Test Package** : IND 2 ( Additional Tests: KF, 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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