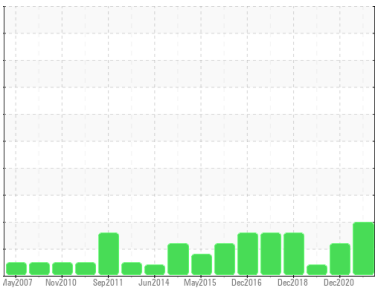
STAUFF FILTRATION TECHNOLOGY

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
**Molding**
Machine Id
**PRESS 20 (S/N 61004468)**
Component
**Hydraulic System**
Fluid
**SHELL TELLUS S3 M 46 (91 GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor. Due to an abnormal test result it is recommended to contact Stauff Corp at (201)-444-7800 for help resolving the issue.

**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.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **ST44357** | ST40896 | ST39111 |
| Sample Date | | Client Info | | **01 Dec 2022** | 07 Dec 2020 | 13 Feb 2020 |
| 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 | | | | **ABNORMAL** | ABNORMAL | ATTENTION |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >40 | **9** | 11 | 8 |
| Chromium | ppm | ASTM D5185m | >4 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >4 | **<1** | 0 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >60 | **2** | 2 | 2 |
| Tin | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | 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 | 0 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 3 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 0 | **0** | <1 | 0 |
| Calcium | ppm | ASTM D5185m | 0 | **26** | 27 | 28 |
| Phosphorus | ppm | ASTM D5185m | 106 | **71** | 77 | 81 |
| Zinc | ppm | ASTM D5185m | 0 | **28** | 27 | 24 |
| Sulfur | ppm | ASTM D5185m | | **442** | 374 | 401 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **3** | <1 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Water | % | ASTM D6304 | >0.05 | **0.009** | 0.002 | 0.000 |
| ppm Water | ppm | ASTM D6304 | >500 | **99.0** | 18.6 | 7.4 |

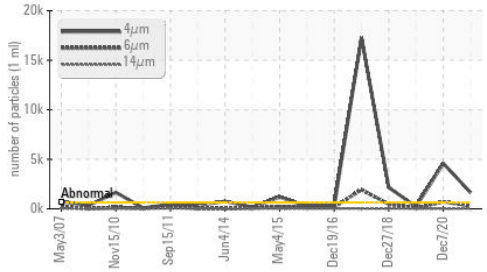
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >640 | ▲ **1631** | ▲ 4575 | 214 |
| Particles >6µm | | ASTM D7647 | >80 | ▲ **280** | ▲ 703 | 80 |
| Particles >14µm | | ASTM D7647 | >10 | ▲ **25** | ● 14 | ● 12 |
| Particles >21µm | | ASTM D7647 | >3 | ▲ **7** | 3 | 2 |
| Particles >38µm | | ASTM D7647 | >3 | **1** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >16/13/10 | ▲ **18/15/12** | ▲ 19/17/11 | ● 15/13/11 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.19** | 0.168 | 0.163 |

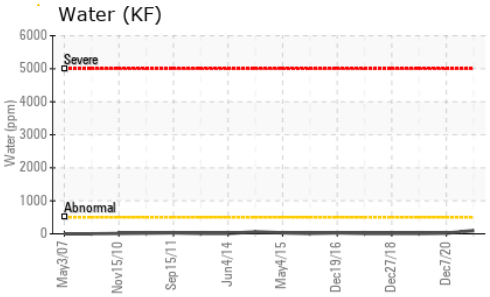
# OIL ANALYSIS REPORT

STAUFF FILTRATION TECHNOLOGY

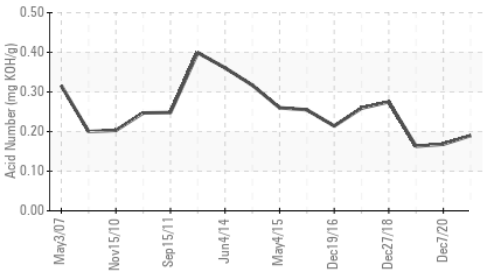
Particle Trend



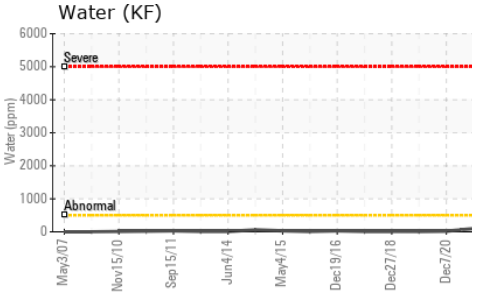

Water (KF)



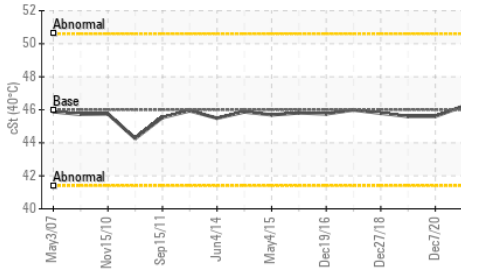

Acid Number




Water (KF)

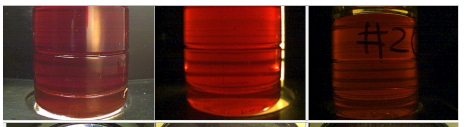
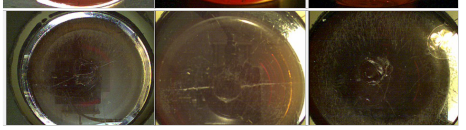



Viscosity @ 40°C



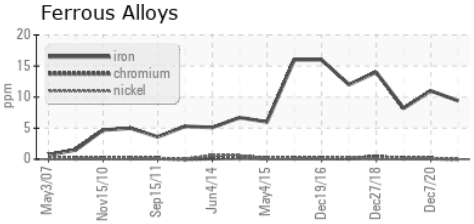

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.05 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46.0 | **46.2** | 45.6 | 45.6 |

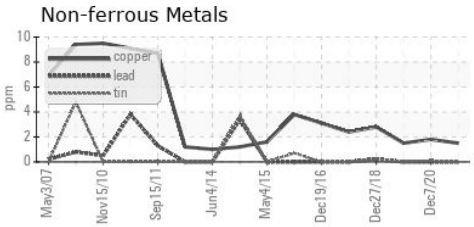
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

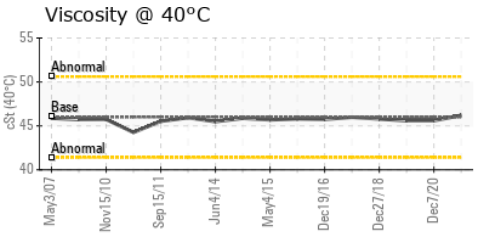
Ferrous Alloys



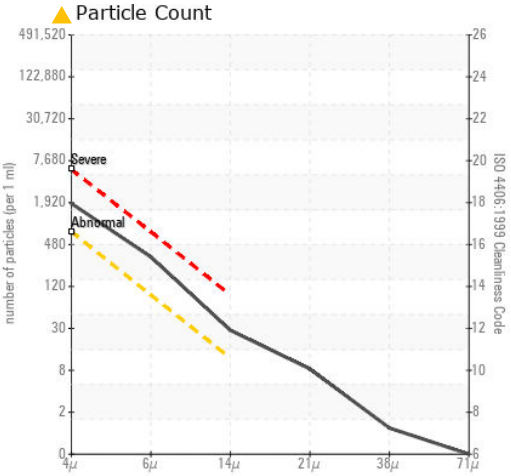

Non-ferrous Metals



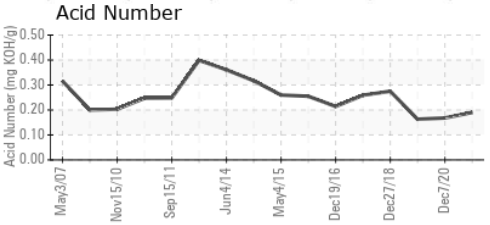

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : ST44357
**Lab Number** : 05707071
**Unique Number** : 10241646
**Test Package** : IND 2 ( Additional Tests: KF )

**Received** : 02 Dec 2022
**Tested** : 05 Dec 2022
**Diagnosed** : 05 Dec 2022 - Angela Borella

*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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Report Id: MENWAL [WUSCAR] 05707071 (Generated: 05/15/2024 07:29:21) Rev: 1

Contact/Location: Jonathan Vanbeekum - MENWAL