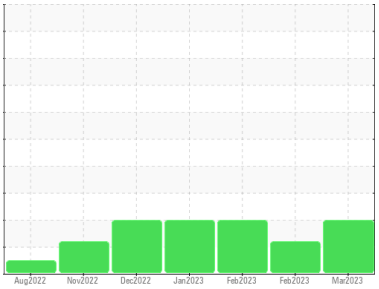
# PROBLEM SUMMARY

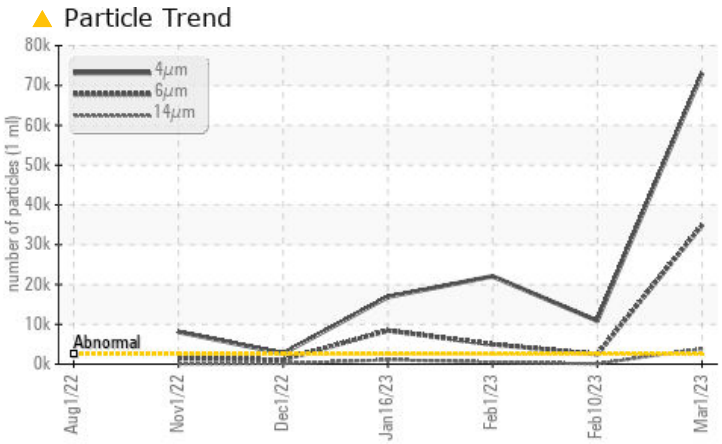
Sample Rating Trend




ISO

Machine Id
**VOLVO**
Component
**Transmission (Auto)**
Fluid
**CASTROL TRANSMAX SYNTHETIC MV ATF (28 GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | ▲ **73051** | ▲ 10886 | ▲ 22071 |
| Particles >6µm | | ASTM D7647 | >640 | ▲ **34924** | ▲ 2477 | ▲ 4966 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **3919** | 69 | ▲ 500 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **361** | 5 | ▲ 75 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | ▲ **23/22/19** | ▲ 21/18/13 | ▲ 22/19/16 |

**Customer Id:** HAWCHANC
**Sample No.:** WC0700568
**Lab Number:** 05781214
**Test Package:** PLANT

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Jonathan Hester +1 919-379-4092 x4092
jhester@wearcheckusa.com

*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 | MISSED | Apr 06 2023 | ? | We recommend you service the filters on this component. |

## HISTORICAL DIAGNOSIS

**10 Feb 2023 Diag: Don Baldridge**

ISO

No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report

**01 Feb 2023 Diag: Don Baldridge**

ISO

We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report

**16 Jan 2023 Diag: Jonathan Hester**

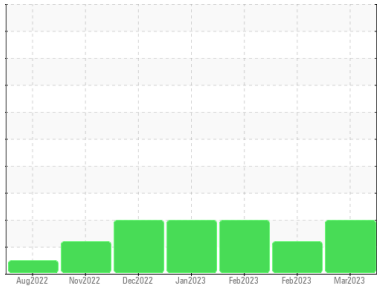
ISO

We recommend you service the filters on this component. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of particulates present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
**VOLVO**
Component
**Transmission (Auto)**
Fluid
**CASTROL TRANSMAX SYNTHETIC MV ATF (28 GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor.

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

**Contamination**
There is a high amount of particulates present in the fluid.

**Fluid Condition**
The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0700568** | WC0700567 | WC0700558 |
| Sample Date | | Client Info | | **01 Mar 2023** | 10 Feb 2023 | 01 Feb 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 | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **0** | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >50 | **<1** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >50 | **0** | 0 | <1 |
| Copper | ppm | ASTM D5185m | >200 | **0** | 0 | 0 |
| Tin | ppm | ASTM D5185m | >10 | **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 | 100 | **102** | 103 | 110 |
| Barium | ppm | ASTM D5185m | 0 | **36** | 30 | 48 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | 10 | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 0 | **0** | <1 | <1 |
| Calcium | ppm | ASTM D5185m | 370 | **68** | 77 | 89 |
| Phosphorus | ppm | ASTM D5185m | 300 | **176** | 187 | 200 |
| Zinc | ppm | ASTM D5185m | 0 | **5** | 2 | 10 |
| Sulfur | ppm | ASTM D5185m | 1600 | **842** | 951 | 836 |

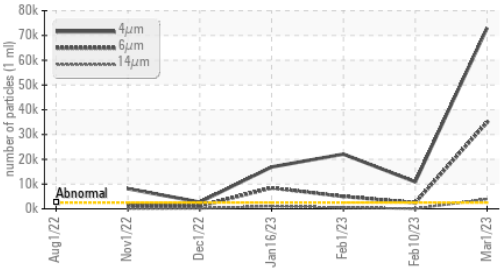
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **<1** | <1 | <1 |
| Sodium | ppm | ASTM D5185m | | **1** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 1 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | ▲ **73051** | ▲ 10886 | ▲ 22071 |
| Particles >6µm | | ASTM D7647 | >640 | ▲ **34924** | ▲ 2477 | ▲ 4966 |
| Particles >14µm | | ASTM D7647 | >80 | ▲ **3919** | 69 | ▲ 500 |
| Particles >21µm | | ASTM D7647 | >20 | ▲ **361** | 5 | ▲ 75 |
| Particles >38µm | | ASTM D7647 | >4 | **3** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | ▲ **23/22/19** | ▲ 21/18/13 | ▲ 22/19/16 |

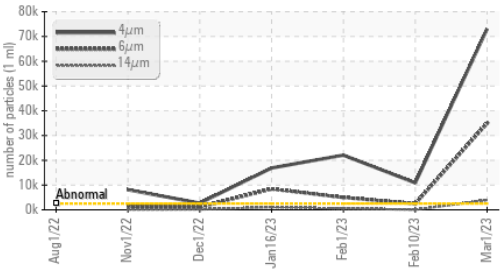
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.78** | 0.87 | 0.95 |

# OIL ANALYSIS REPORT

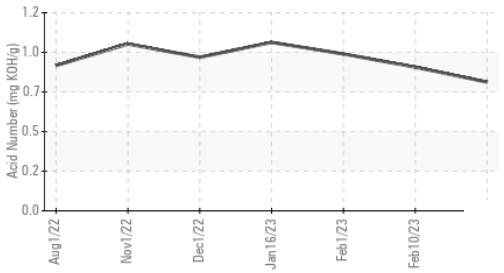
Particle Trend



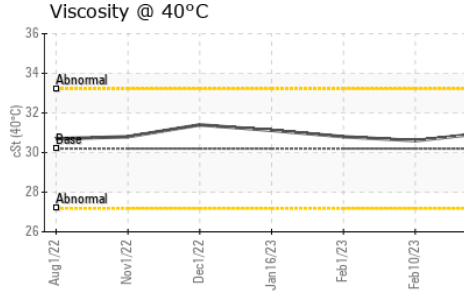

Particle Trend




Acid Number



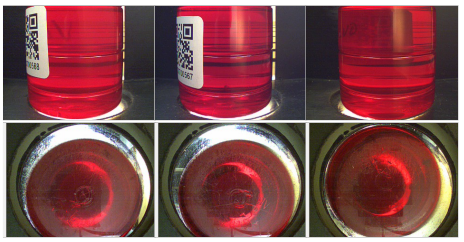

Viscosity @ 40°C




| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **VLITE** | 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 | **LIGHT** | NONE | LIGHT |
| 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

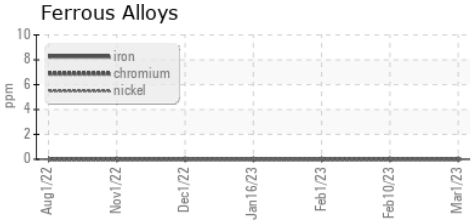
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 30.2 | **31.0** | 30.6 | 30.8 |

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

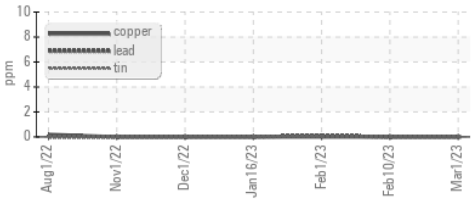


## GRAPHS

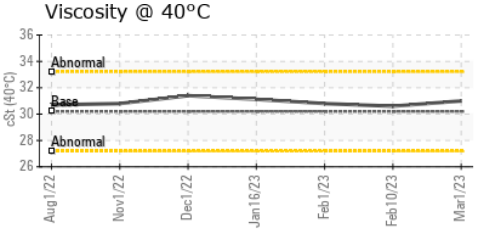
Ferrous Alloys



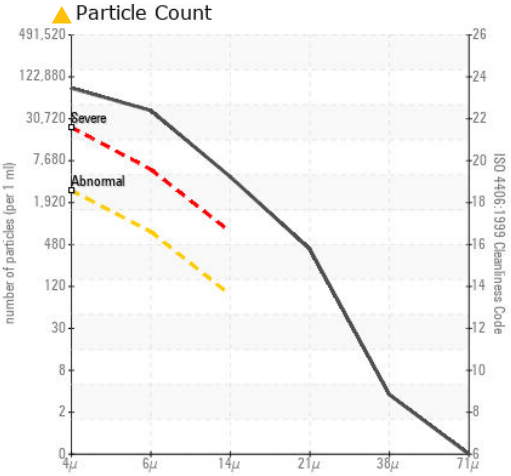

Non-ferrous Metals



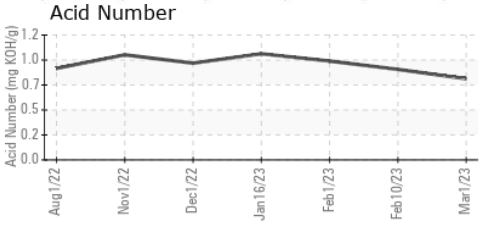

Viscosity @ 40°C




Particle Count




Acid Number




ANAB ACCREDITED ISO/IEC 17025 TESTING LABORATORY
Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0700568
**Lab Number** : 05781214
**Unique Number** : 10360884
**Test Package** : PLANT

**Received** : 02 Mar 2023
**Diagnosed** : 03 Mar 2023
**Diagnostician** : Jonathan Hester

*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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