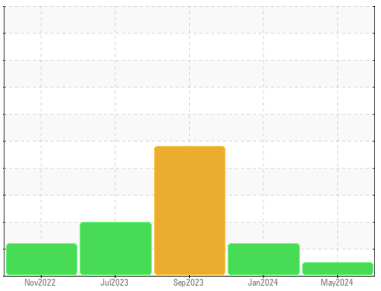
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Machine Id
## POUR/COOL TRIPLE PUMP
Component
**Hydraulic System**
Fluid
**BENZ OIL ULTRA GUARD 552 (600 GAL)**

## DIAGNOSIS

**Recommendation**
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 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 | | **PH0000310** | PH0000235 | PH0000344 |
| Sample Date | | Client Info | | **29 May 2024** | 26 Jan 2024 | 21 Sep 2023 |
| Machine Age | hrs | Client Info | | **0** | 14164 | 0 |
| Oil Age | hrs | Client Info | | **672** | 14164 | 12124 |
| Oil Changed | | Client Info | | **Changed** | Filtered | N/A |
| Sample Status | | | | **NORMAL** | ATTENTION | SEVERE |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.05 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **<1** | 4 | 3 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **6** | 15 | 12 |
| Tin | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

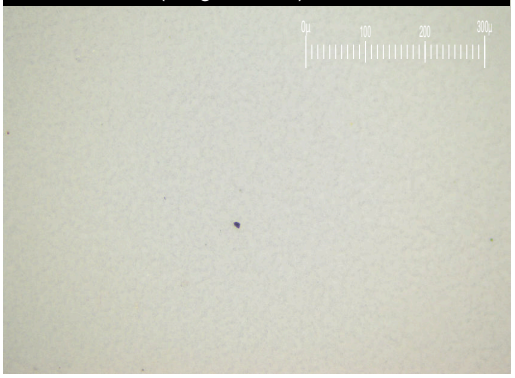
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | **0** | 0 | 2 |
| Calcium | ppm | ASTM D5185m | | **0** | 1 | 5 |
| Phosphorus | ppm | ASTM D5185m | | **360** | 304 | 265 |
| Zinc | ppm | ASTM D5185m | | **20** | 12 | 12 |
| Sulfur | ppm | ASTM D5185m | | **1492** | 1276 | 1133 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **1** | 2 | 2 |
| Sodium | ppm | ASTM D5185m | | **<1** | 4 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >1300 | **514** | ● 1650 | ▲ 4495 |
| Particles >6µm | | ASTM D7647 | >320 | **192** | ● 582 | ▲ 1331 |
| Particles >14µm | | ASTM D7647 | >80 | **28** | 41 | ● 104 |
| Particles >21µm | | ASTM D7647 | >20 | **7** | 10 | 19 |
| Particles >38µm | | ASTM D7647 | >4 | **1** | 0 | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >17/15/13 | **16/15/12** | ● 18/16/13 | ▲ 19/18/14 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **4.03** | 1.84 | ▲ 10.87 |

Particle Filter (Magn: 200 x)



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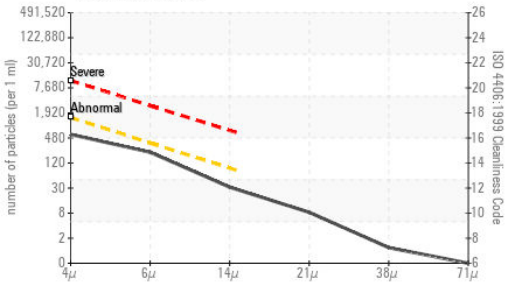
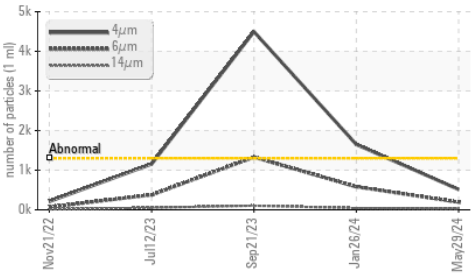
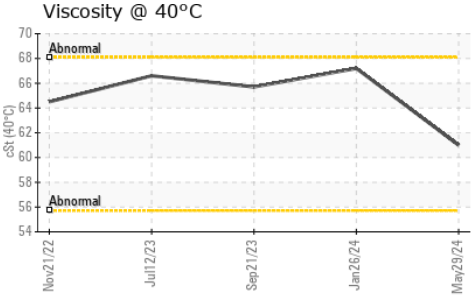
Particle Count



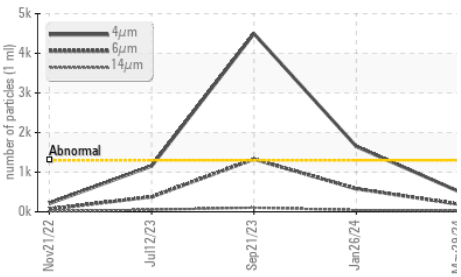

Particle Trend




Viscosity @ 40°C




Particle Trend



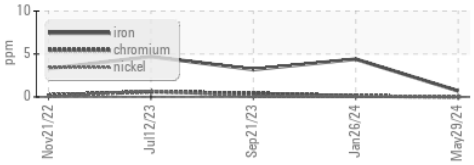

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | | **61.0** | 67.2 | 65.7 |

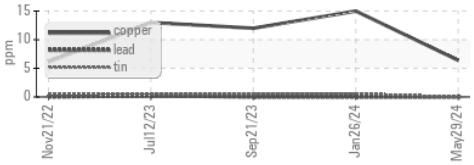
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |
| PrtFilter | | |  | | |

## GRAPHS

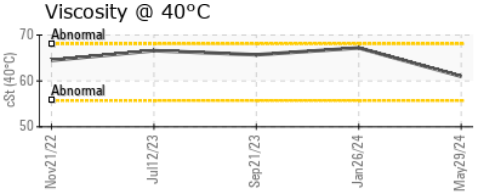
Ferrous Alloys




Non-ferrous Metals

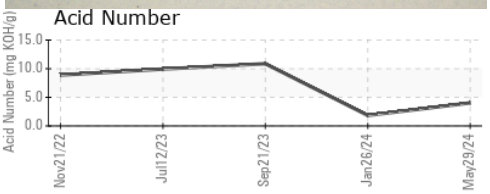



Viscosity @ 40°C




Particle Filter (Magn: 200 x)

Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : PH0000310 **Received** : 13 Jun 2024
**Lab Number** : 06208706 **Tested** : 19 Jun 2024
**Unique Number** : 11076167 **Diagnosed** : 19 Jun 2024 - Jonathan Hester
**Test Package** : PLANT ( Additional Tests: PrtFilter )

*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: DEELIN [WUSCAR] 06208706 (Generated: 06/22/2024 21:51:35) Rev: 1
Contact/Location: BRANDON KUHNKE - DEELIN