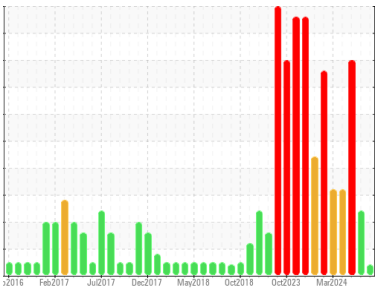
# OIL ANALYSIS REPORT

Sample Rating Trend



VIS DEBRIS

Machine Id
## HIGH FIRMNESS
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

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

**Contamination**
Moderate concentration of visible dirt/debris 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 | | **WC0859529** | WC0859526 | WC0859524 |
| Sample Date | | Client Info | | **12 Jul 2024** | 12 Jun 2024 | 13 May 2024 |
| Machine Age | wks | Client Info | | **0** | 0 | 0 |
| Oil Age | wks | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **ABNORMAL** | SEVERE | 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 | **0** | 0 | 0 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **0** | <1 | <1 |
| Tin | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | 25 | **2** | 0 | 0 |
| Calcium | ppm | ASTM D5185m | 200 | **23** | 30 | 43 |
| Phosphorus | ppm | ASTM D5185m | 300 | **362** | 338 | 326 |
| Zinc | ppm | ASTM D5185m | 370 | **446** | 440 | 396 |
| Sulfur | ppm | ASTM D5185m | 2500 | **1004** | 987 | 968 |

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

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >2500 | **---** | ▲ 38554 | ▲ 147042 |
| Particles >6µm | | ASTM D7647 | >640 | **---** | ▲ 2046 | ▲ 93617 |
| Particles >14µm | | ASTM D7647 | >80 | **---** | ● 100 | ▲ 6190 |
| Particles >21µm | | ASTM D7647 | >20 | **---** | 19 | ▲ 668 |
| Particles >38µm | | ASTM D7647 | >4 | **---** | 0 | ▲ 11 |
| Particles >71µm | | ASTM D7647 | >3 | **---** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >18/16/13 | **---** | ▲ 22/18/14 | ▲ 24/24/20 |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.27** | 0.28 | 0.32 |

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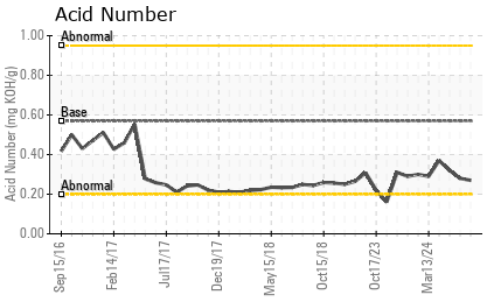
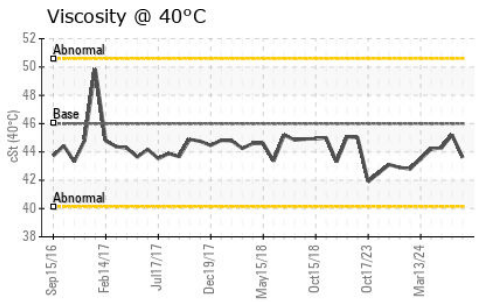


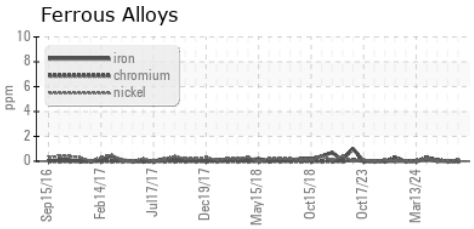



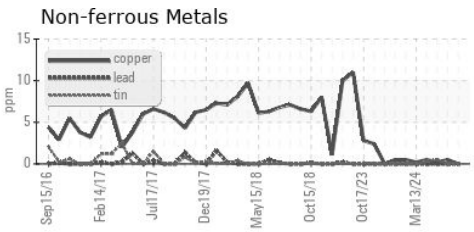

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Silt | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Debris | scalar | *Visual | NONE | ▲ **MODER** | 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 |

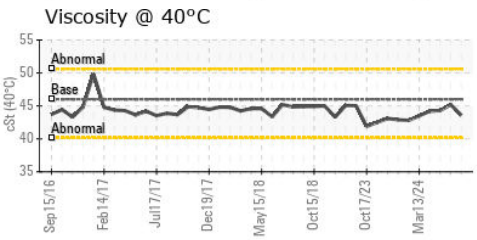
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46 | **43.6** | 45.2 | 44.3 |

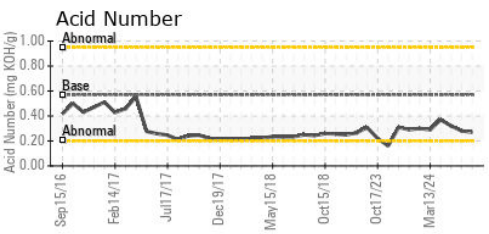
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0859529
**Lab Number** : 06238370
**Unique Number** : 11127204
**Test Package** : IND 2

**Received** : 16 Jul 2024
**Tested** : 18 Jul 2024
**Diagnosed** : 18 Jul 2024 - Don Baldridge

*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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