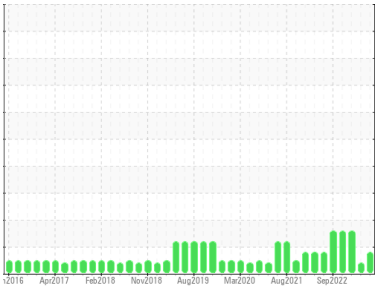
# PROBLEM SUMMARY

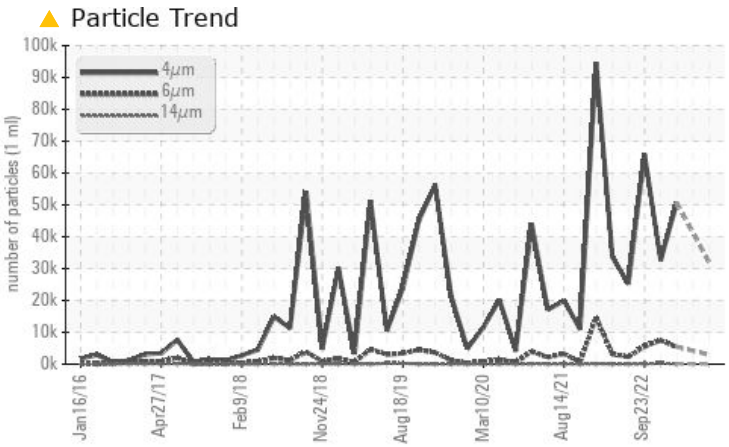
Sample Rating Trend



ISO

Machine Id
**SDA**
Component
**Steering**
Fluid
**CHEVRON HYDRAULIC AW ISO 68 (150 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 | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **3013** | --- | ▲ 5398 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/14 | ▲ **22/19/12** | --- | ▲ 23/20/13 |

**Customer Id:** AMESAI
**Sample No.:** MW0055072
**Lab Number:** 05962194
**Test Package:** MAR 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Don Baldridge +1
don.b505@comcast.net

*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

**11 Jun 2023 Diag: Don Baldridge**

**VIS DEBRIS**

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.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the fluid. The AN level is acceptable for this fluid. The condition of the fluid is suitable for further service.

**view report**

**17 Mar 2023 Diag: Don Baldridge**

**WEAR**

No corrective action is recommended at this time. Resample at the next service interval to monitor.An increase in the copper level is noted. All other 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**

**19 Dec 2022 Diag: Don Baldridge**

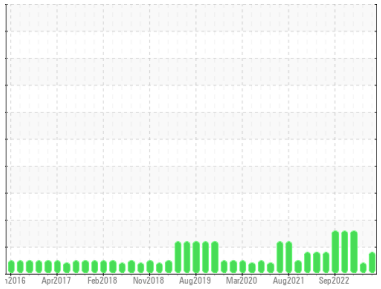
**ISO**

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 oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

# OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Machine Id
**SDA**
Component
**Steering**
Fluid
**CHEVRON HYDRAULIC AW ISO 68 (150 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 a high amount of silt (particulates < 14 microns in size) 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 | | **MW0055072** | MW0050579 | MW0040009 |
| Sample Date | | Client Info | | **19 Sep 2023** | 11 Jun 2023 | 17 Mar 2023 |
| Machine Age | hrs | Client Info | | **37198** | 34849 | 0 |
| Oil Age | hrs | Client Info | | **37198** | 0 | 32930 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >50 | **<1** | 2 | 1 |
| Chromium | ppm | ASTM D5185m | >15 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >5 | **0** | 0 | 0 |
| Lead | ppm | ASTM D5185m | >10 | **<1** | 2 | <1 |
| Copper | ppm | ASTM D5185m | >50 | **20** | 24 | ▲ 23 |
| Tin | ppm | ASTM D5185m | >5 | **<1** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

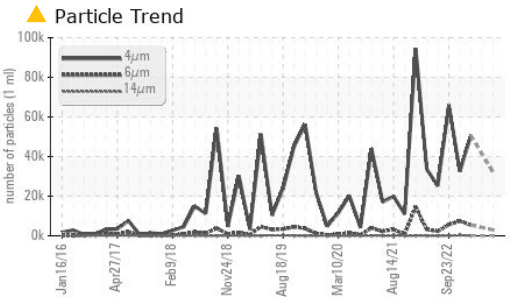
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | | **0** | 2 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | **0** | <1 | 2 |
| Calcium | ppm | ASTM D5185m | | **43** | 43 | 50 |
| Phosphorus | ppm | ASTM D5185m | | **285** | 312 | 332 |
| Zinc | ppm | ASTM D5185m | | **328** | 331 | 309 |
| Sulfur | ppm | ASTM D5185m | | **686** | 801 | 488 |

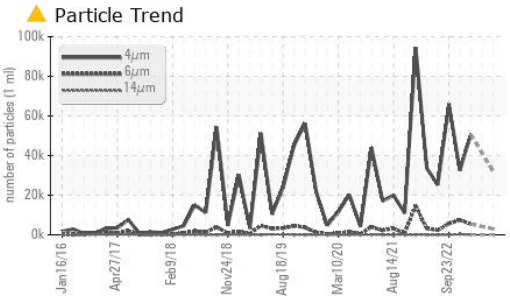
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **<1** | <1 | 1 |
| Sodium | ppm | ASTM D5185m | | **2** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **0** | 1 | 0 |

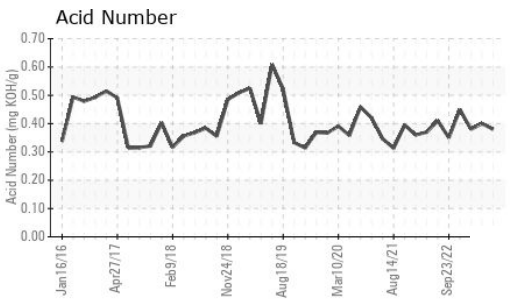
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **32040** | --- | 50586 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **3013** | --- | ▲ 5398 |
| Particles >14µm | | ASTM D7647 | >160 | **37** | --- | 57 |
| Particles >21µm | | ASTM D7647 | >40 | **6** | --- | 8 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | --- | 0 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >--/17/14 | ▲ **22/19/12** | --- | ▲ 23/20/13 |

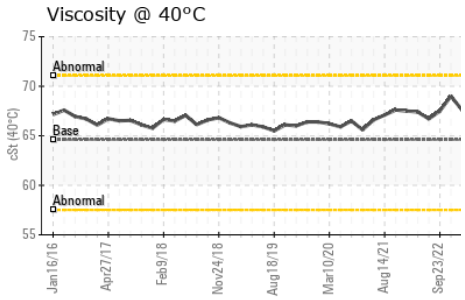
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | **0.38** | 0.40 | 0.38 |

# OIL ANALYSIS REPORT



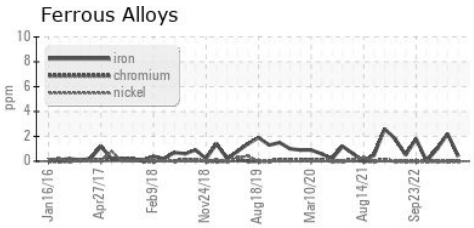



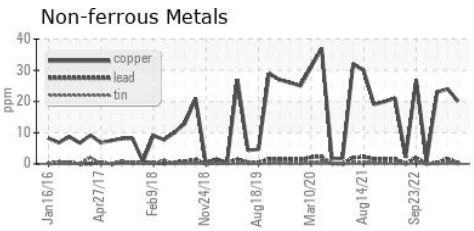

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
|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

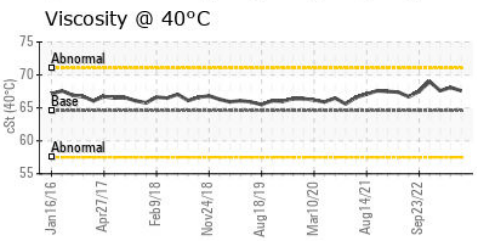
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 64.6 | **67.6** | 68.1 | 67.6 |

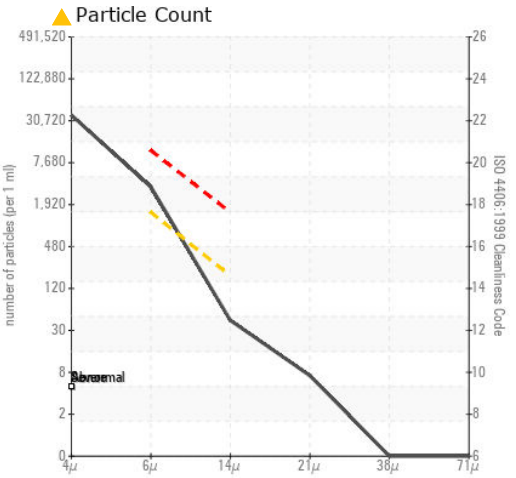
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | | | |
| Bottom | | | | | |

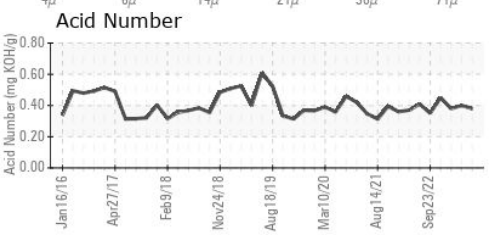
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : MW0055072 **Received** : 27 Sep 2023
**Lab Number** : 05962194 **Diagnosed** : 28 Sep 2023
**Unique Number** : 10668745 **Diagnostician** : Don Baldridge
**Test Package** : MAR 2 ( Additional Tests: PrtCount )

*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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