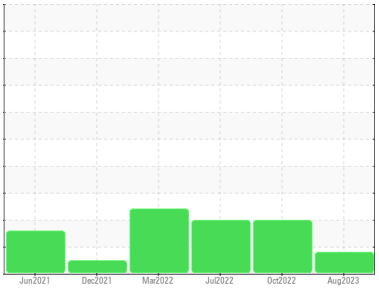
# PROBLEM SUMMARY

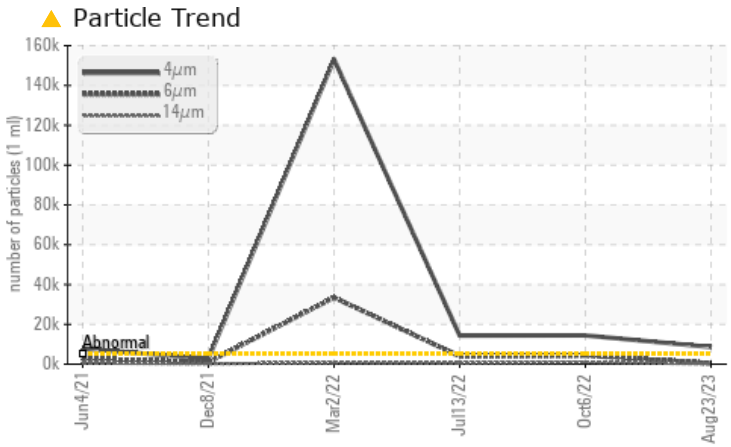
Sample Rating Trend




ISO

Machine Id
## L2 PRESS (S/N 442-7001)
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 100 (--- QTS)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **ATTENTION** | ABNORMAL | ABNORMAL |
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **8570** | ▲ 14447 | ▲ 14332 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **20/16/12** | ▲ 21/19/17 | ▲ 21/19/16 |


**Customer Id:** ARAMAL
**Sample No.:** WC0846252
**Lab Number:** 05936123
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

*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 | --- | --- | ? | We recommend you service the filters on this component. |
| Information Required | --- | --- | ? | Please specify the brand, type, and viscosity of the oil on your next sample. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |

## HISTORICAL DIAGNOSIS

**06 Oct 2022 Diag: Doug Bogart**

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. MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The AN level is acceptable for this fluid. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the oil is suitable for further service.

view report

**13 Jul 2022 Diag: Doug Bogart**

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. MPC (Membrane Patch Colorimetry) test indicates acceptable levels of varnish present. The AN level is acceptable for this fluid. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the oil is suitable for further service.

view report

**02 Mar 2022 Diag: Doug Bogart**

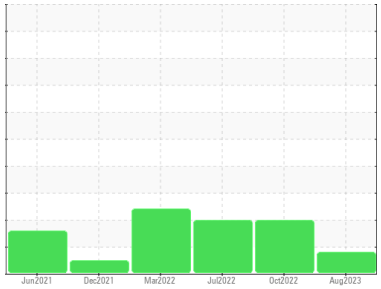
INSOLUBLES

We advise that you perform a filter service, and use off-line depth filtration to improve the cleanliness of the system fluid. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of particulates present in the oil. MPC (Membrane Patch Colorimetry) test indicates a high concentration of varnish present. The AN level is acceptable for this fluid. Linear Sweep Voltammetry (RULER – ASTM D6971) testing indicates normal levels of anti-oxidants present in the oil. The condition of the oil is suitable for further service.

view report

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## L2 PRESS (S/N 442-7001)
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 100 (--- QTS)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

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

**Contamination**
There is a light amount of silt (particulates < 14 microns in size) present in the oil. The water content is negligible.

**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 | | **WC0846252** | WC0677143 | WC0677138 |
| Sample Date | | Client Info | | **23 Aug 2023** | 06 Oct 2022 | 13 Jul 2022 |
| 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 | | | | **ATTENTION** | ABNORMAL | ABNORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184 | | **14** | --- | --- |
| Iron | ppm | ASTM D5185m | >20 | **<1** | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **5** | 10 | 4 |
| Copper | ppm | ASTM D5185m | >20 | **56** | 57 | 49 |
| Tin | ppm | ASTM D5185m | >20 | **2** | 1 | 1 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

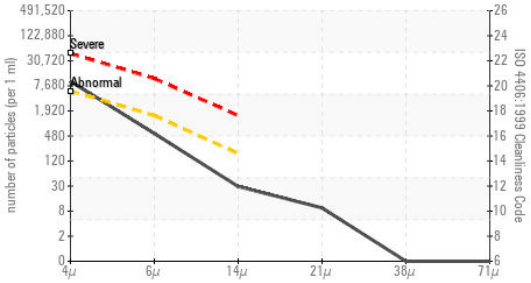
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | 0 | 8 |
| Barium | ppm | ASTM D5185m | 5 | **1** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **1** | 2 | 1 |
| Manganese | ppm | ASTM D5185m | | **0** | 1 | 0 |
| Magnesium | ppm | ASTM D5185m | 25 | **14** | 16 | 12 |
| Calcium | ppm | ASTM D5185m | 200 | **70** | 65 | 76 |
| Phosphorus | ppm | ASTM D5185m | 300 | **335** | 380 | 349 |
| Zinc | ppm | ASTM D5185m | 370 | **425** | 422 | 423 |
| Sulfur | ppm | ASTM D5185m | 2500 | **970** | 837 | 1011 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **0** | 1 | <1 |
| Sodium | ppm | ASTM D5185m | | **0** | 1 | <1 |
| Potassium | ppm | ASTM D5185m | >20 | **1** | 0 | 0 |
| Water | % | ASTM D6304 | >0.05 | **0.011** | 0.006 | 0.009 |
| ppm Water | ppm | ASTM D6304 | >500 | **113.0** | 65.2 | 95.9 |

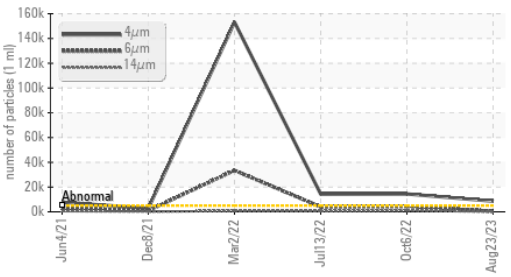
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **8570** | 14447 | 14332 |
| Particles >6µm | | ASTM D7647 | >1300 | **485** | 4299 | 3973 |
| Particles >14µm | | ASTM D7647 | >160 | **26** | 998 | 546 |
| Particles >21µm | | ASTM D7647 | >40 | **8** | 179 | 134 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 4 | 9 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 1 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **20/16/12** | 21/19/17 | 21/19/16 |

# OIL ANALYSIS REPORT

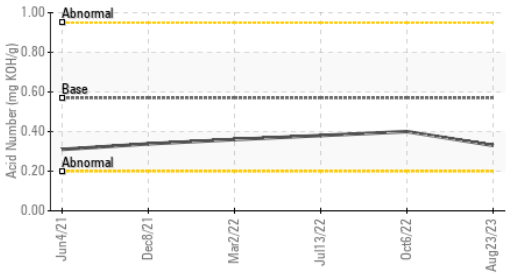
Particle Count



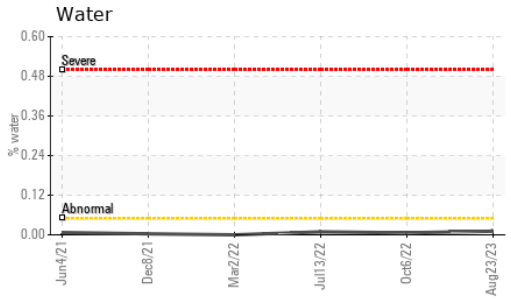

Particle Trend



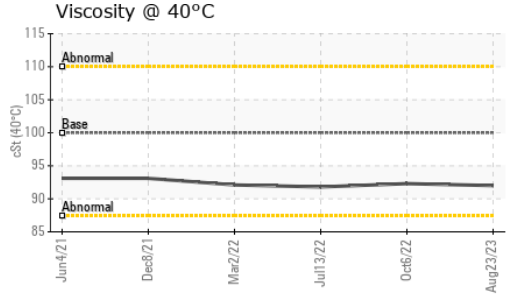

Acid Number




Water




Viscosity @ 40°C

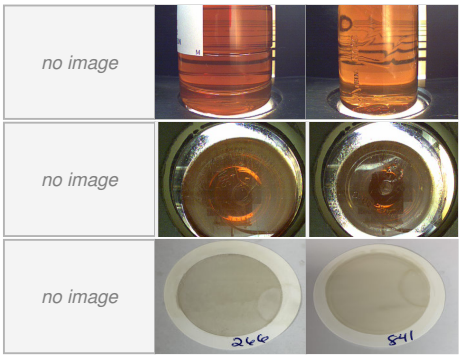



| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.33** | 0.40 | 0.38 |

| 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 | 100 | **92.0** | 92.3 | 91.8 |

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




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0846252 **Received** : 28 Aug 2023
**Lab Number** : 05936123 **Diagnosed** : 29 Aug 2023
**Unique Number** : 10621394 **Diagnostician** : Wes Davis
**Test Package** : IND 2 ( Additional Tests: KF, PQ )

*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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