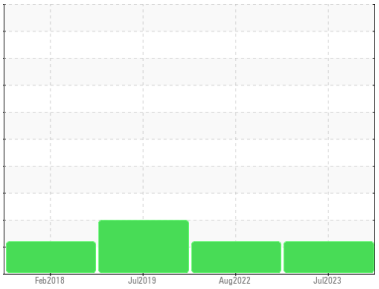
# PROBLEM SUMMARY

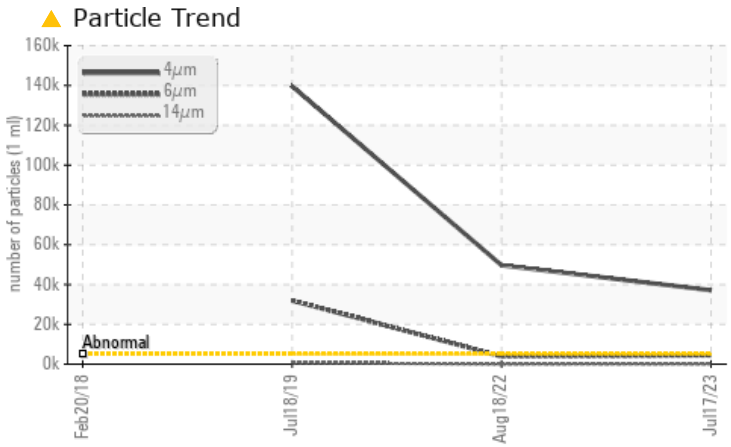
Sample Rating Trend




ISO

Area
**ROOM A**
Machine Id
**LINE 6 (S/N 3209)**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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 | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **37109** | ▲ 49652 | ▲ 139627 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **4443** | ▲ 3885 | ▲ 31965 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **22/19/13** | ▲ 23/19/11 | ▲ 24/22/17 |


**Customer Id:** CONANA
**Sample No.:** WC0811843
**Lab Number:** 05904904
**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. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| 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

**18 Aug 2022 Diag: Angela Borella**

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**

**18 Jul 2019 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 oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

**view report**

**20 Feb 2018 Diag: Doug Bogart**

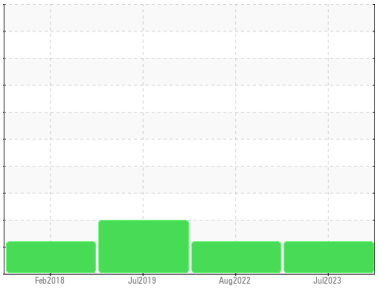
VISUAL METAL

We recommend you service the filters on this component. We advise that you inspect for the source(s) of metal. Resample at the next service interval to monitor. We were unable to perform a particle count due to metal particles present in this sample.Moderate concentration of visible metal present. All component wear rates are normal. There is no indication of any contamination 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

Area
**ROOM A**
Machine Id
**LINE 6 (S/N 3209)**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. We recommend an early resample to monitor this condition. 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 moderate amount of silt (particulates < 14 microns in size) present in the oil.

**Fluid Condition**
The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0811843** | WC0696245 | WC0355041 |
| Sample Date | | Client Info | | **17 Jul 2023** | 18 Aug 2022 | 18 Jul 2019 |
| Machine Age | days | Client Info | | **0** | 0 | 0 |
| Oil Age | days | 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 | >40 | **4** | 3 | 15 |
| Chromium | ppm | ASTM D5185m | >4 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >4 | **0** | 0 | 2 |
| Lead | ppm | ASTM D5185m | >10 | **<1** | 0 | 1 |
| Copper | ppm | ASTM D5185m | >60 | **6** | 5 | 2 |
| Tin | ppm | ASTM D5185m | >4 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | <1 | <1 |
| Barium | ppm | ASTM D5185m | 5 | **2** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **<1** | 0 | 1 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Magnesium | ppm | ASTM D5185m | 25 | **2** | <1 | 1 |
| Calcium | ppm | ASTM D5185m | 200 | **65** | 60 | 42 |
| Phosphorus | ppm | ASTM D5185m | 300 | **356** | 354 | 101 |
| Zinc | ppm | ASTM D5185m | 370 | **480** | 455 | 27 |
| Sulfur | ppm | ASTM D5185m | 2500 | **1390** | 1307 | 6828 |

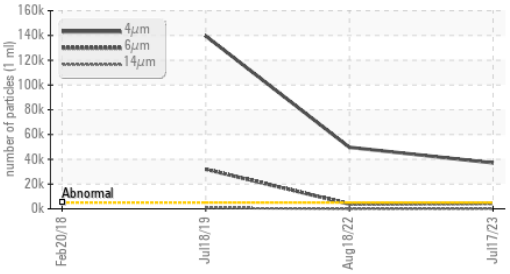
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >20 | **<1** | <1 | 3 |
| Sodium | ppm | ASTM D5185m | | **0** | <1 | 1 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 0 | <1 |

| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **37109** | ▲ 49652 | ▲ 139627 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **4443** | ▲ 3885 | ▲ 31965 |
| Particles >14µm | | ASTM D7647 | >160 | **75** | 20 | ▲ 694 |
| Particles >21µm | | ASTM D7647 | >40 | **12** | 3 | ▲ 194 |
| Particles >38µm | | ASTM D7647 | >10 | **0** | 0 | ▲ 11 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **22/19/13** | ▲ 23/19/11 | ▲ 24/22/17 |

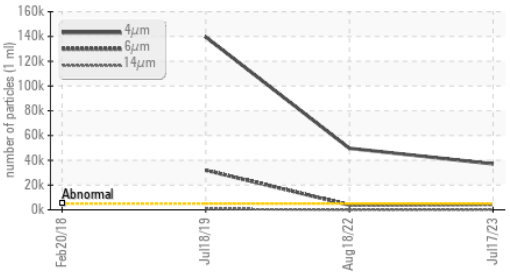
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.34** | 0.37 | 0.434 |

# OIL ANALYSIS REPORT

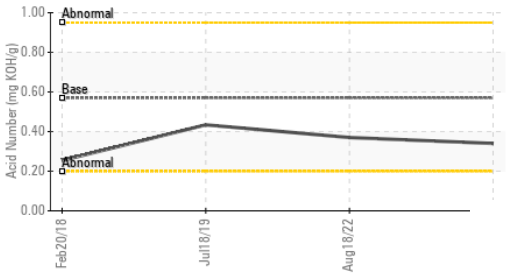
Particle Trend



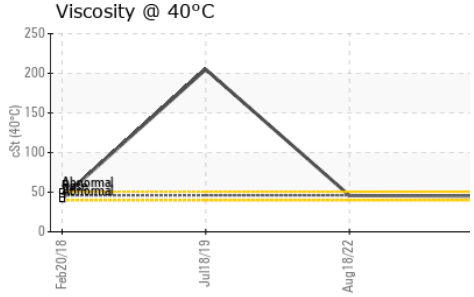

Particle Trend




Acid Number

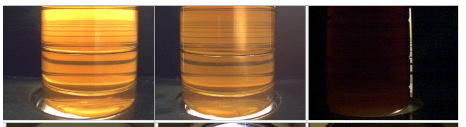
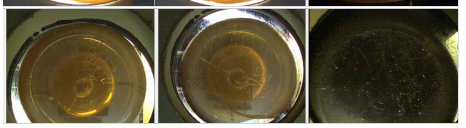



Viscosity @ 40°C



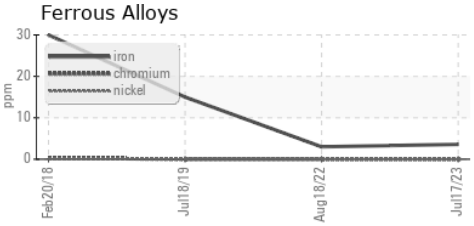

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | LIGHT |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | 46 | **45.0** | 45.7 | 205 |

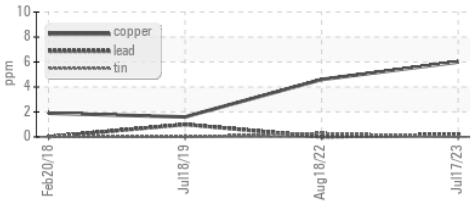
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

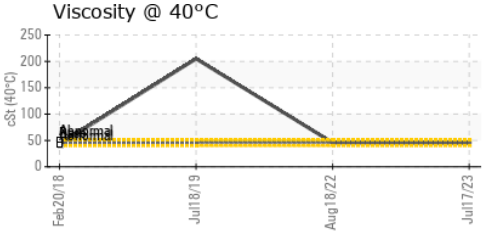
Ferrous Alloys



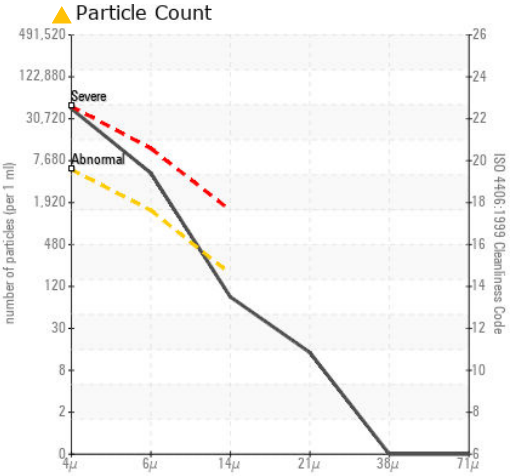

Non-ferrous Metals



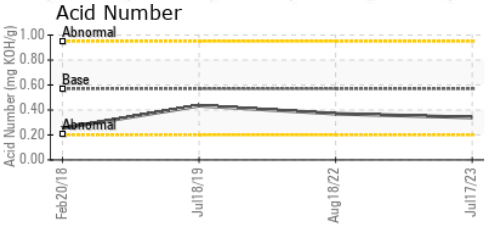

Viscosity @ 40°C




Particle Count




Acid Number




**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0811843
**Lab Number** : 05904904
**Unique Number** : 10566260
**Test Package** : IND 2

**Received** : 21 Jul 2023
**Diagnosed** : 24 Jul 2023
**Diagnostician** : Wes Davis

Certificate L2367

*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)*


**Altium Packaging - ANAHEIM - Plant 1304A**
1201 E CERRITOS AVE, UNIT 121
ANAHEIM, CA
US 9285
Contact: EVELYN VALLES
evelyn.valles@altiumpkg.com
T: (323)542-7140
F: