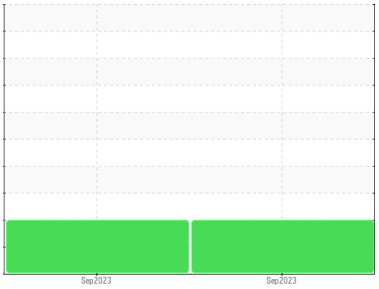
# PROBLEM SUMMARY

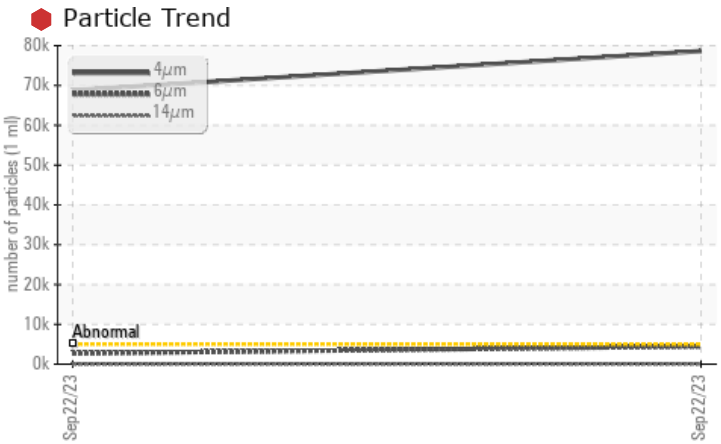
Sample Rating Trend




ISO

Area
## Inland Iron - 888041
Machine Id
## AG193
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

This is a baseline read-out on the submitted sample.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | SEVERE | --- |
| Particles >4µm | | ASTM D7647 | >5000 | **68782** | 78641 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **2690** | 4448 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **23/19/10** | 23/19/11 | --- |

**Customer Id:** CHECOB
**Sample No.:** E30000424
**Lab Number:** 02586126
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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*To change component or sample information:*
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

## RECOMMENDED ACTIONS

*There are no recommended actions for this sample.*

## HISTORICAL DIAGNOSIS

**22 Sep 2023 Diag: Tatiana Sorkina**

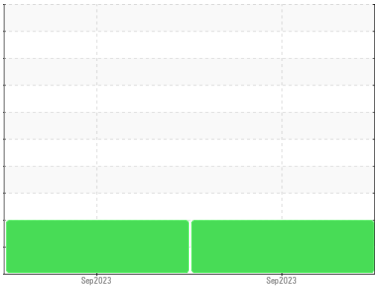
**ISO**

This is a baseline read-out on the submitted sample.{not applicable} Particles >4µm and oil cleanliness are severely high. Particles >6µm are abnormally high. {not applicable}

**view report**

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Area
## Inland Iron - 888041
Machine Id
## AG193
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
This is a baseline read-out on the submitted sample.

**Wear**
{not applicable}

**Contamination**
Particles >4µm and oil cleanliness are severely high. Particles >6µm are abnormally high.

**Fluid Condition**
{not applicable}

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Batch # | | Client Info | | **AG193** | Tote 12 | --- |
| Machine ID | | Client Info | | **Sales** | AG193 | --- |
| Department | | Client Info | | **Tote** | Production | --- |
| Sample From | | Client Info | | **Initial** | --- | --- |
| Production Stage | | Client Info | | **09/28/2023** | Initial | --- |
| Sent to WC | | Client Info | | **---** | 09/25/2023 | --- |
| Sample Number | | Client Info | | **E30000424** | E30000220 | --- |
| Sample Date | | Client Info | | **22 Sep 2023** | 22 Sep 2023 | --- |
| Machine Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | N/A | --- |
| Sample Status | | | | **SEVERE** | SEVERE | --- |

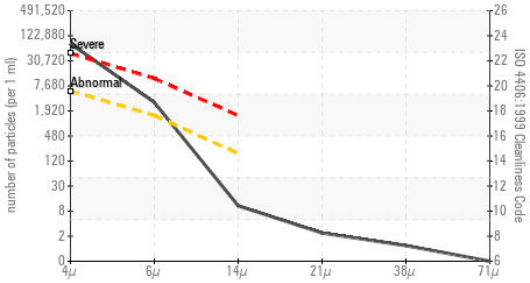
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **6** | 5 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | **0** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | **2** | 1 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | **9** | 8 | --- |
| Tin | ppm | ASTM D5185(m) | >20 | **0** | 0 | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | 0 | --- |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 5 | **<1** | <1 | --- |
| Barium | ppm | ASTM D5185(m) | 5 | **<1** | <1 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 5 | **0** | 0 | --- |
| Manganese | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Magnesium | ppm | ASTM D5185(m) | 25 | **2** | 2 | --- |
| Calcium | ppm | ASTM D5185(m) | 200 | **5** | 4 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 300 | **330** | 318 | --- |
| Zinc | ppm | ASTM D5185(m) | 370 | **274** | 263 | --- |
| Sulfur | ppm | ASTM D5185(m) | 2500 | **1225** | 1185 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |

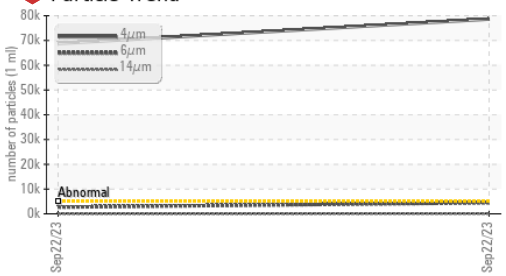
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **5** | 5 | --- |
| Sodium | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **0** | <1 | --- |
| Water | % | ASTM D6304* | >0.05 | **0.003** | 0.004 | --- |
| ppm Water | ppm | ASTM D6304* | >500 | **31.9** | 43.5 | --- |

# OIL ANALYSIS REPORT

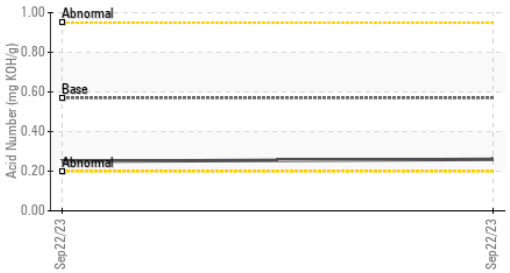
Particle Count



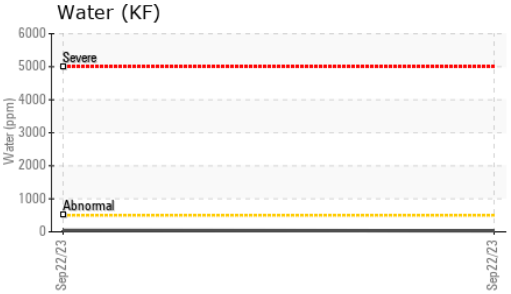

Particle Trend



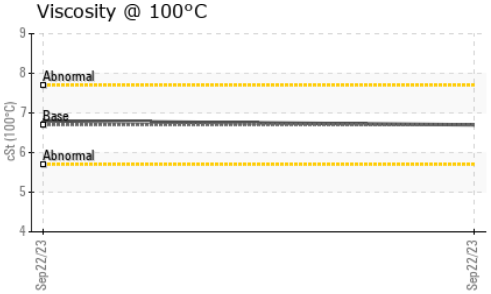

Acid Number




Water (KF)




Viscosity @ 100°C

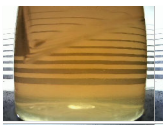
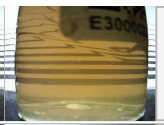



| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | **68782** | 78641 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | **2690** | 4448 | --- |
| Particles >14µm | | ASTM D7647 | >160 | **9** | 16 | --- |
| Particles >21µm | | ASTM D7647 | >40 | **2** | 4 | --- |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 0 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | **23/19/10** | 23/19/11 | --- |

| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.57 | **0.26** | 0.25 | --- |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Debris | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Odor | scalar | Visual* | NORML | **NORML** | NORML | --- |
| Emulsified Water | scalar | Visual* | >0.05 | **NEG** | NEG | --- |
| Free Water | scalar | Visual* | | **NEG** | NEG | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 46 | **43.5** | 43.5 | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 6.7 | **6.7** | 6.8 | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 97 | **107** | 111 | --- |

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |

ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : E30000424 **Received** : 02 Oct 2023
**Lab Number** : 02586126 **Diagnosed** : 05 Oct 2023
**Unique Number** : 5655192 **Diagnostician** : Tatiana Sorkina
**Test Package** : IND 2 ( Additional Tests: KF, KV100, VI )

*To discuss this sample report, contact Customer Service at 1-800-268-2131.*
*Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.*
*Validity of results and interpretation are based on the sample and information as supplied.*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