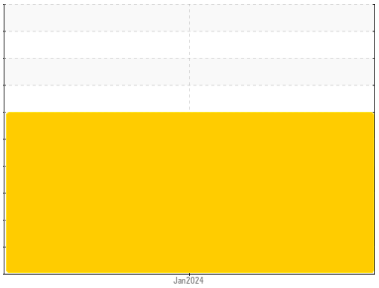
# PROBLEM SUMMARY

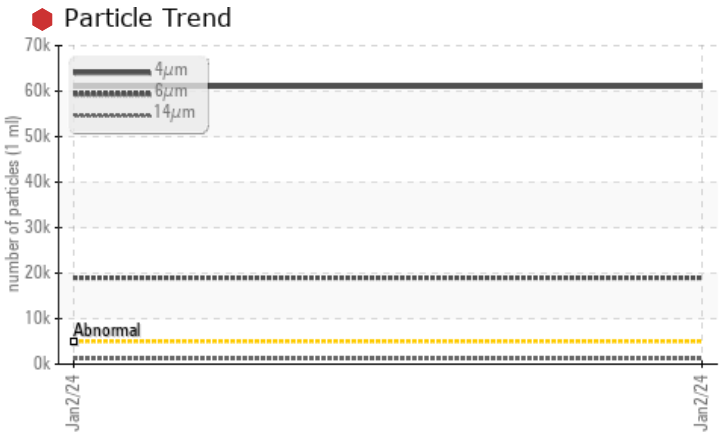
Sample Rating Trend

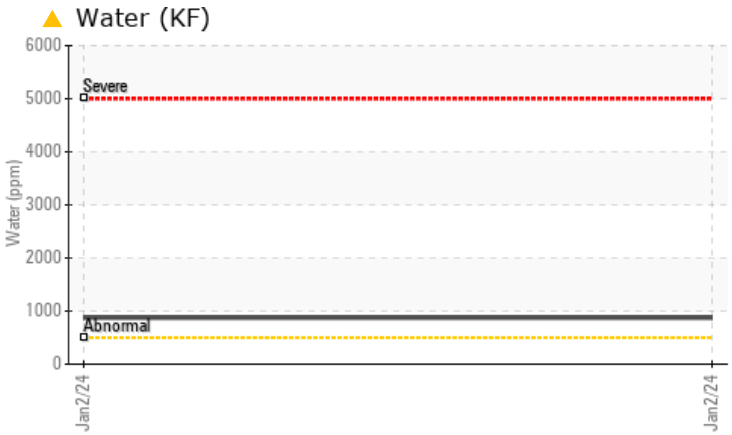



ISO

Machine Id
## NO UNIT PC321172
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 32 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 32. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

## PROBLEMATIC TEST RESULTS

| | | | | | | |
|---|---|---|---|---|---|---|
| Sample Status | | | | **SEVERE** | --- | --- |
| Water | % | ASTM D6304* | >0.05 | ▲ **0.087** | --- | --- |
| ppm Water | ppm | ASTM D6304* | >500 | ▲ **874** | --- | --- |
| Particles >4µm | | ASTM D7647 | >5000 | ⬢ **61001** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ⬢ **18967** | --- | --- |
| Particles >14µm | | ASTM D7647 | >160 | ▲ **1186** | --- | --- |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **162** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ⬢ **23/21/17** | --- | --- |

**Customer Id:** ELEBAR
**Sample No.:** PC321172
**Lab Number:** 02613438
**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

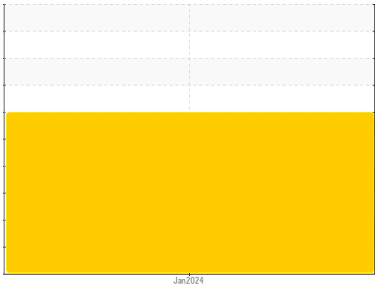
## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Change Filter | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |
| Resample | --- | --- | ? | Resample in 30-45 days to monitor this situation. |
| Alert | --- | --- | ? | Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. |
| Information Required | --- | --- | ? | NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. |
| Check Breathers | --- | --- | ? | The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. |
| Check Dirt Access | --- | --- | ? | We advise that you check all areas where contaminants can enter the system. |
| Check Seals | --- | --- | ? | Check seals and/or filters for points of contaminant entry. |
| Filter Fluid | --- | --- | ? | We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. |

## HISTORICAL DIAGNOSIS

# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## NO UNIT PC321172
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 32 (--- GAL)**

## DIAGNOSIS

**Recommendation**

Little or no information is provided as to the component and lubricant being tested. Recommendations are therefore generic in nature and may not apply to the current application. Please forward information as to equipment type, reservoir capacity, lubricant type and any pertinent information to allow for a more accurate assessment. Check seals and/or filters for points of contaminant entry. We advise that you check all areas where contaminants can enter the system. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. Resample in 30-45 days to monitor this situation. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 32. Please confirm. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

**Wear**

All component wear rates are normal.

**Contamination**

There is a high amount of particulates (2 to 100 microns in size) present in the oil. There is a moderate concentration of water 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 | | **PC321172** | --- | --- |
| Sample Date | | Client Info | | **02 Jan 2024** | --- | --- |
| Machine Age | hrs | Client Info | | **0** | --- | --- |
| Oil Age | hrs | Client Info | | **0** | --- | --- |
| Oil Changed | | Client Info | | **N/A** | --- | --- |
| Sample Status | | | | **SEVERE** | --- | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185(m) | >20 | **11** | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Silver | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **<1** | --- | --- |
| Lead | ppm | ASTM D5185(m) | >20 | **1** | --- | --- |
| Copper | ppm | ASTM D5185(m) | >20 | **4** | --- | --- |
| Tin | ppm | ASTM D5185(m) | >20 | **0** | --- | --- |
| Antimony | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Beryllium | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | **0** | --- | --- |

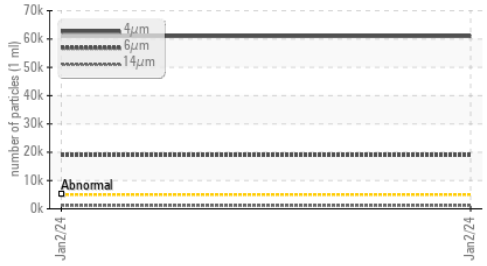
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 5 | **<1** | --- | --- |
| Barium | ppm | ASTM D5185(m) | 5 | **2** | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 5 | **0** | --- | --- |
| Manganese | ppm | ASTM D5185(m) | | **0** | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 25 | **2** | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 200 | **23** | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 300 | **307** | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 370 | **281** | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 2500 | **903** | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | --- | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **<1** | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | **13** | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **2** | --- | --- |
| Water | % | ASTM D6304* | >0.05 | ▲ **0.087** | --- | --- |
| ppm Water | ppm | ASTM D6304* | >500 | ▲ **874** | --- | --- |

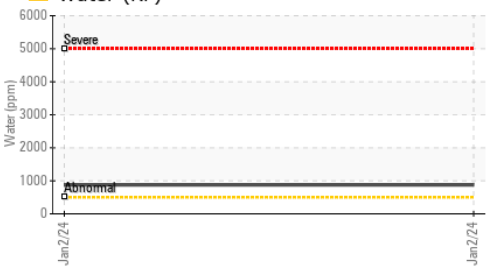
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ● **61001** | --- | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ● **18967** | --- | --- |
| Particles >14µm | | ASTM D7647 | >160 | ▲ **1186** | --- | --- |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **162** | --- | --- |
| Particles >38µm | | ASTM D7647 | >10 | **0** | --- | --- |
| Particles >71µm | | ASTM D7647 | >3 | **0** | --- | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ● **23/21/17** | --- | --- |

# OIL ANALYSIS REPORT

Particle Trend

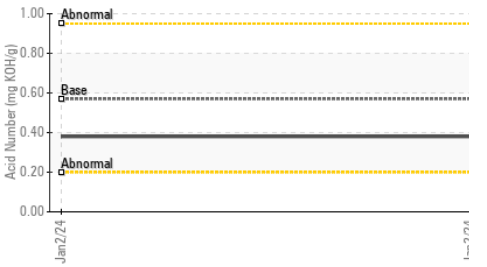



Water (KF)

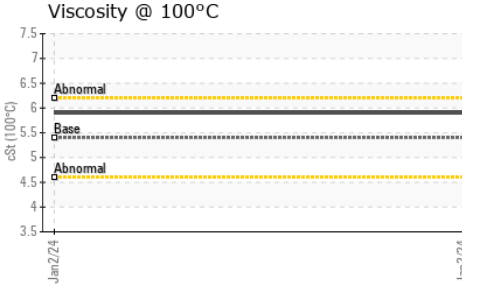



Viscosity @ 100°C


Acid Number




Viscosity @ 100°C




| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D974* | 0.57 | **0.38** | --- | --- |

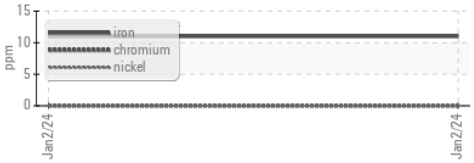
| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | --- | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | --- | --- |
| Silt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Debris | scalar | Visual* | NONE | **NONE** | --- | --- |
| Sand/Dirt | scalar | Visual* | NONE | **NONE** | --- | --- |
| Appearance | scalar | Visual* | NORML | **NORML** | --- | --- |
| Odor | scalar | Visual* | NORML | **NORML** | --- | --- |
| Emulsified Water | scalar | Visual* | >0.05 | **.2%** | --- | --- |
| Free Water | scalar | Visual* | | **NEG** | --- | --- |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D7279(m) | 32 | **35.2** | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 5.4 | **5.9** | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 102 | **110** | --- | --- |

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

## GRAPHS

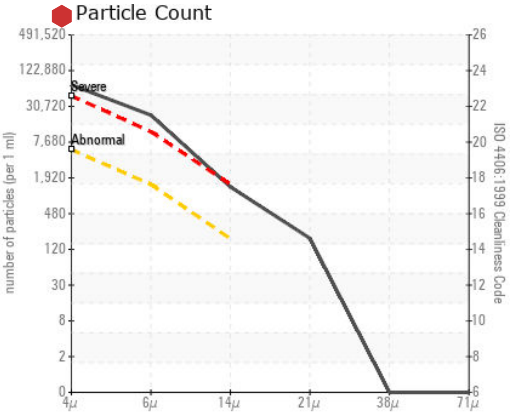
Ferrous Alloys



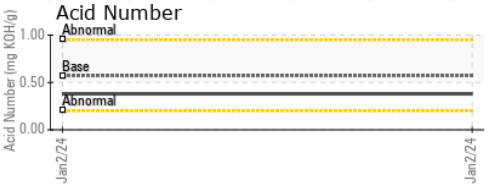

Non-ferrous Metals


Viscosity @ 40°C


Particle Count




Acid Number




ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : PC321172 **Recieved** : 05 Feb 2024
**Lab Number** : 02613438 **Diagnosed** : 06 Feb 2024
**Unique Number** : 5722533 **Diagnostician** : Bill Quesnel
**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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