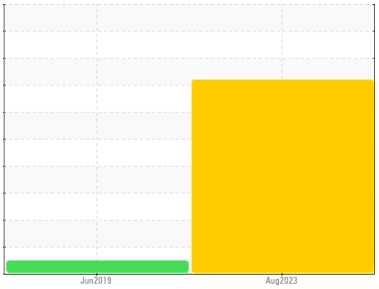
# OIL ANALYSIS REPORT

Sample Rating Trend




ISO

Machine Id
## T001248 (S/N 16-M-06-1996)
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation. We suspect that the abnormal contaminant(s) is the result of incorrect sampling technique.
DISCLAIMER: Interpretation of results is based on the sample as received from the customer. The condition of the sample and the method of sampling cannot be verified.

**Wear**

Iron ppm levels are noted. The low ferrous density (PQ) index indicates the wear metal levels are due to corrosion. All other component wear rates are normal.

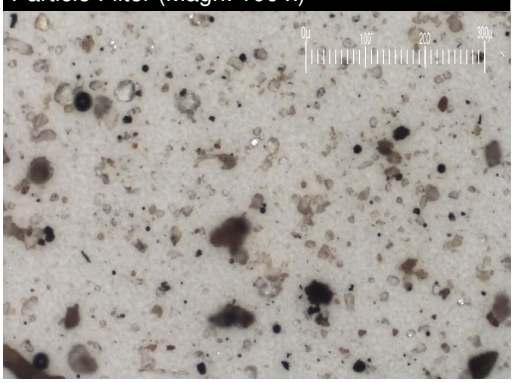
**Contamination**

There is a high amount of particulates (2 to 100 microns in size) present in the oil. Light concentration of visible dirt/debris present in the oil.

**Fluid Condition**

The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Particle Filter (Magn: 100 x)



| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0832197** | WC0348979 | --- |
| Sample Date | | Client Info | | **04 Aug 2023** | 19 Jun 2019 | --- |
| Machine Age | hrs | Client Info | | **6048** | 2700 | --- |
| Oil Age | hrs | Client Info | | **0** | 0 | --- |
| Oil Changed | | Client Info | | **N/A** | N/A | --- |
| Sample Status | | | | **SEVERE** | NORMAL | --- |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184* | | **0** | --- | --- |
| Iron | ppm | ASTM D5185(m) | >20 | ▲ **28** | 18 | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | **<1** | 0 | --- |
| Nickel | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |
| Titanium | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Silver | ppm | ASTM D5185(m) | | **0** | 0 | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | **2** | <1 | --- |
| Lead | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |
| Copper | ppm | ASTM D5185(m) | >20 | **7** | 5 | --- |
| 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 | --- |

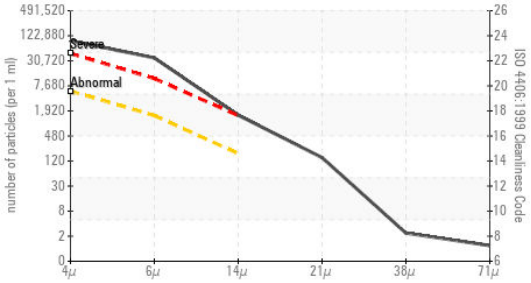
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185(m) | 5 | **3** | <1 | --- |
| Barium | ppm | ASTM D5185(m) | 5 | **0** | 0 | --- |
| Molybdenum | ppm | ASTM D5185(m) | 5 | **<1** | <1 | --- |
| Manganese | ppm | ASTM D5185(m) | | **<1** | <1 | --- |
| Magnesium | ppm | ASTM D5185(m) | 25 | **2** | 2 | --- |
| Calcium | ppm | ASTM D5185(m) | 200 | **141** | 181 | --- |
| Phosphorus | ppm | ASTM D5185(m) | 300 | **400** | 404 | --- |
| Zinc | ppm | ASTM D5185(m) | 370 | **449** | 543 | --- |
| Sulfur | ppm | ASTM D5185(m) | 2500 | **1715** | 1998 | --- |
| Lithium | ppm | ASTM D5185(m) | | **<1** | 0 | --- |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185(m) | >15 | **4** | 1 | --- |
| Sodium | ppm | ASTM D5185(m) | | **5** | 5 | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | **<1** | <1 | --- |

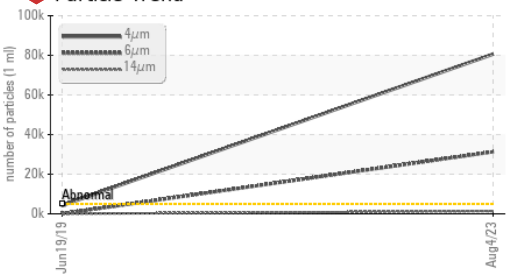
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ● **80602** | 4224 | --- |
| Particles >6µm | | ASTM D7647 | >1300 | ● **31318** | 55 | --- |
| Particles >14µm | | ASTM D7647 | >160 | ● **1331** | 2 | --- |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **128** | 0 | --- |
| Particles >38µm | | ASTM D7647 | >10 | **2** | 0 | --- |
| Particles >71µm | | ASTM D7647 | >3 | **1** | 0 | --- |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ● **24/22/18** | 19/13/9 | --- |

# OIL ANALYSIS REPORT

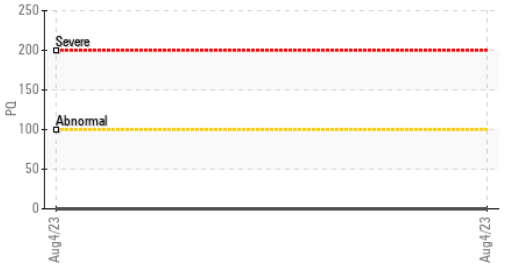
Particle Count



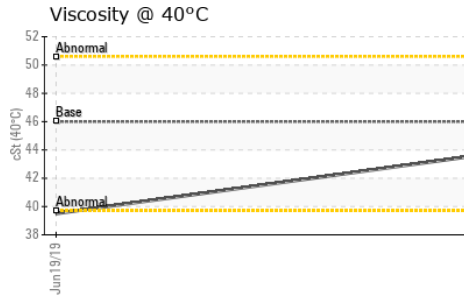

Particle Trend



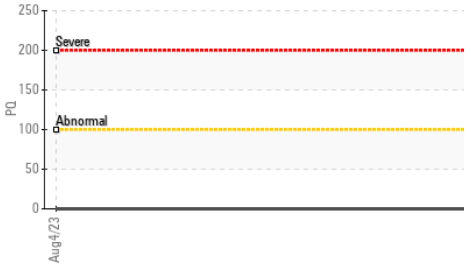

PQ




Viscosity @ 40°C

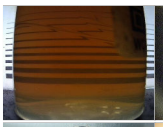
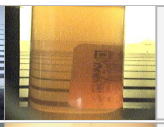



PQ



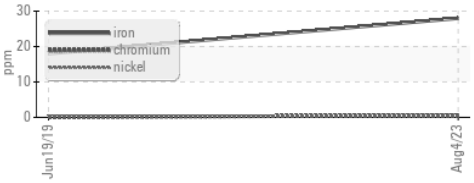

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | Visual* | NONE | **VLITE** | NONE | --- |
| Yellow Metal | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Precipitate | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Silt | scalar | Visual* | NONE | **NONE** | NONE | --- |
| Debris | scalar | Visual* | NONE | ▲ **LIGHT** | 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 | **43.7** | 39.5 | --- |

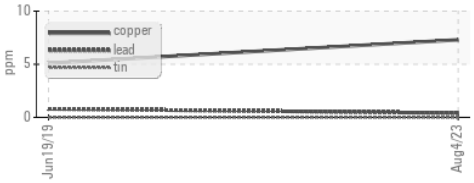
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  |  | *no image* |
| Bottom | | |  |  | *no image* |
| PrtFilter | | |  | *no image* | *no image* |

GRAPHS

▲ Ferrous Alloys

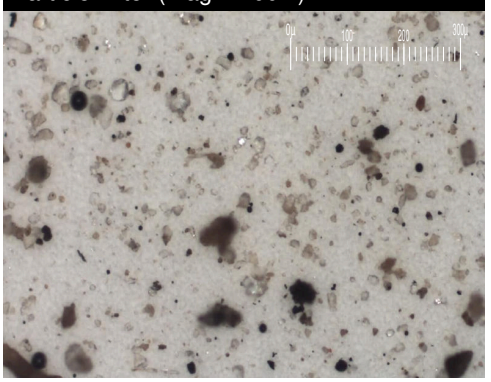



Non-ferrous Metals




Viscosity @ 40°C


Particle Filter (Magn: 100 x)



ISO 17025:2017 Accredited Laboratory

**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
**Sample No.** : WC0832197 **Received** : 11 Aug 2023
**Lab Number** : 02575404 **Diagnosed** : 14 Aug 2023
**Unique Number** : 5620455 **Diagnostician** : Kevin Marson
**Test Package** : MOB 2 ( Additional Tests: Bottom, BottomAnalysis, FilterPatch, PQ, PrtFilter )

*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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