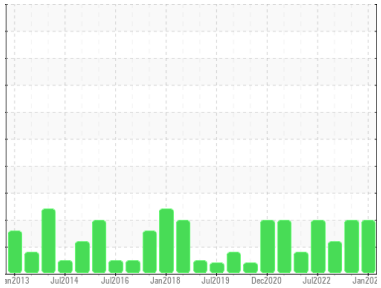
# OIL ANALYSIS REPORT

Sample Rating Trend



ISO

Area
**[604063205 SR]**
Machine Id
**CRMB REFINER 1 (S/N 20059698)**
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 68 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We recommend you service the filters on this component. Resample at the next service interval to monitor.

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

**Contamination**
There is a high amount of particulates present in the oil.

**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 | | **WC0854122** | WC0562493 | WC0605358 |
| Sample Date | | Client Info | | **04 Jan 2024** | 06 Jul 2023 | 07 Jan 2023 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Not Changd** | Not Changd | Not Changd |
| Sample Status | | | | **ABNORMAL** | ABNORMAL | ABNORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.05 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **6** | 0 | 4 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >20 | **<1** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Tin | ppm | ASTM D5185m | >20 | **0** | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

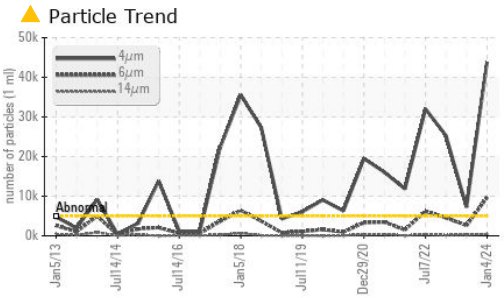
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | **<1** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 25 | **1** | 1 | 0 |
| Calcium | ppm | ASTM D5185m | 200 | **2** | 3 | <1 |
| Phosphorus | ppm | ASTM D5185m | 300 | **151** | 203 | 138 |
| Zinc | ppm | ASTM D5185m | 370 | **0** | 1 | <1 |
| Sulfur | ppm | ASTM D5185m | 2500 | **1853** | 2365 | 2290 |

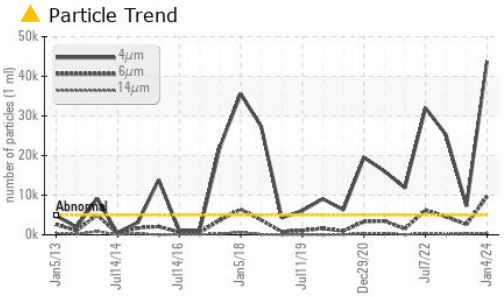
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >15 | **2** | 2 | 2 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | <1 | 0 |

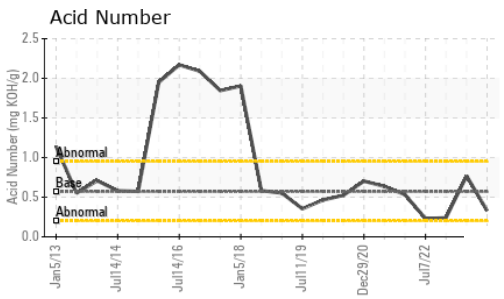
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >5000 | ▲ **43827** | ▲ 7254 | ▲ 25265 |
| Particles >6µm | | ASTM D7647 | >1300 | ▲ **9695** | ▲ 2615 | ▲ 4567 |
| Particles >14µm | | ASTM D7647 | >160 | ▲ **441** | ▲ 237 | 138 |
| Particles >21µm | | ASTM D7647 | >40 | ▲ **111** | ▲ 51 | 27 |
| Particles >38µm | | ASTM D7647 | >10 | **5** | 0 | 1 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/17/14 | ▲ **23/20/16** | ▲ 20/19/15 | ▲ 22/19/14 |

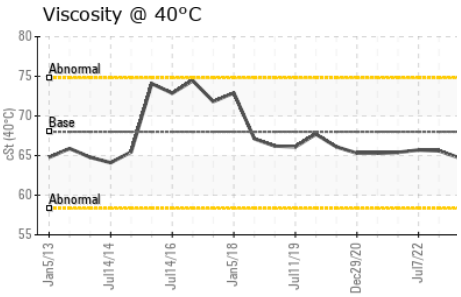
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.33** | 0.77 | 0.24 |

# OIL ANALYSIS REPORT



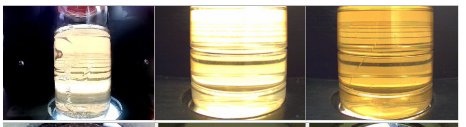



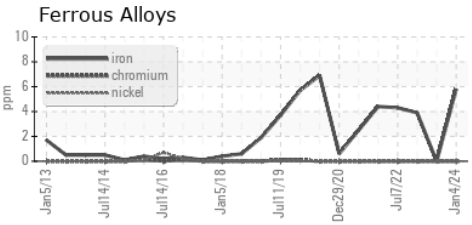



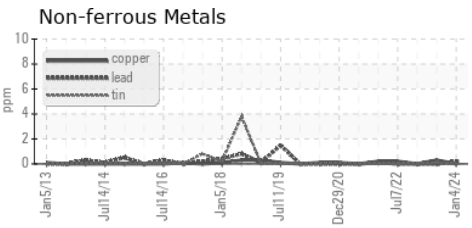

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |

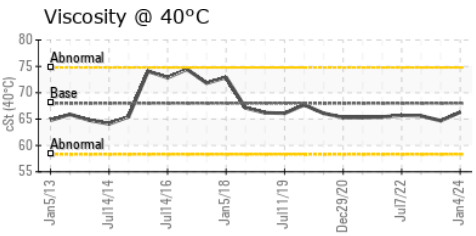
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 68 | **66.3** | 64.7 | 65.6 |

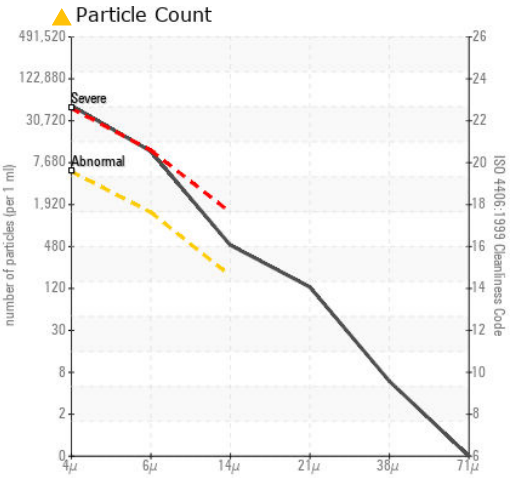
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

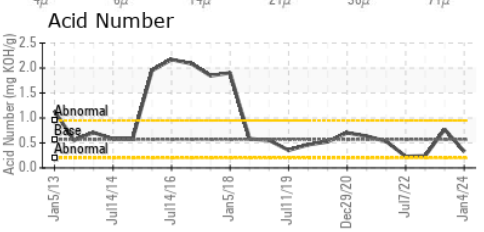
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0854122 **Recieved** : 18 Jan 2024
**Lab Number** : 06064322 **Diagnosed** : 21 Jan 2024
**Unique Number** : 10835704 **Diagnostician** : Don Baldridge
**Test Package** : IND 2

*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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