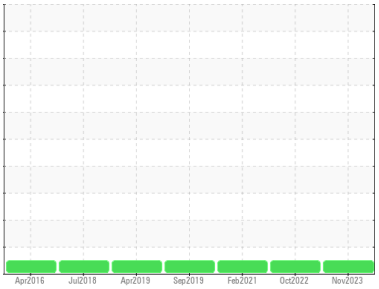
# OIL ANALYSIS REPORT

Sample Rating Trend




NORMAL

Area
**[212258]**
Machine Id
## BALEMASTER 4450G-8 YORK CONTAINER 05201
Component
**Hydraulic System**
Fluid
**AW HYDRAULIC OIL ISO 46 (--- GAL)**

## DIAGNOSIS

**Recommendation**
Resample at the next service interval to monitor.

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

**Contamination**
The amount and size of particulates present in the system are acceptable. There is no indication of any contamination 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 | | **WC0858561** | WC0728379 | WC0533055 |
| Sample Date | | Client Info | | **18 Nov 2023** | 01 Oct 2022 | 07 Feb 2021 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **Filtered** | Filtered | Filtered |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Water | | WC Method | >0.1 | **NEG** | NEG | NEG |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >20 | **<1** | 2 | 1 |
| Chromium | ppm | ASTM D5185m | >10 | **0** | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >10 | **0** | <1 | <1 |
| Lead | ppm | ASTM D5185m | >10 | **0** | 0 | 0 |
| Copper | ppm | ASTM D5185m | >75 | **4** | 4 | 12 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | **---** | --- | 0 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

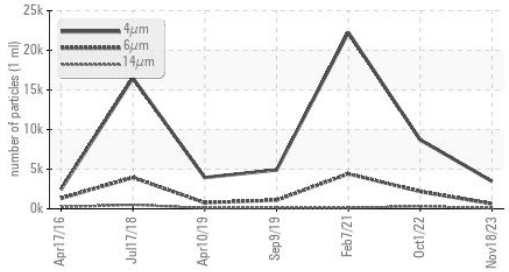
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 5 | **0** | 0 | 3 |
| Barium | ppm | ASTM D5185m | 5 | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | 5 | **0** | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | **0** | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | 25 | **0** | 1 | 48 |
| Calcium | ppm | ASTM D5185m | 200 | **69** | 69 | 65 |
| Phosphorus | ppm | ASTM D5185m | 300 | **321** | 319 | 348 |
| Zinc | ppm | ASTM D5185m | 370 | **296** | 266 | 433 |
| Sulfur | ppm | ASTM D5185m | 2500 | **2066** | 2414 | 5335 |

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

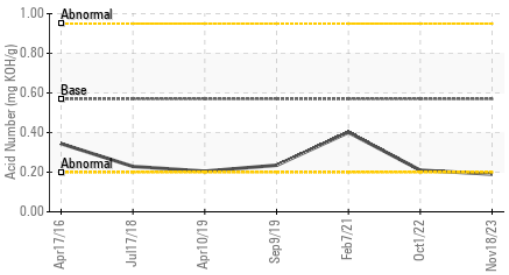
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | | **3457** | 8701 | 22254 |
| Particles >6µm | | ASTM D7647 | >5000 | **634** | 2177 | 4408 |
| Particles >14µm | | ASTM D7647 | >640 | **77** | 310 | 124 |
| Particles >21µm | | ASTM D7647 | >160 | **32** | 119 | 21 |
| Particles >38µm | | ASTM D7647 | >40 | **2** | 7 | 2 |
| Particles >71µm | | ASTM D7647 | >10 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >19/16 | **16/13** | 18/15 | 22/19/14 |

# OIL ANALYSIS REPORT

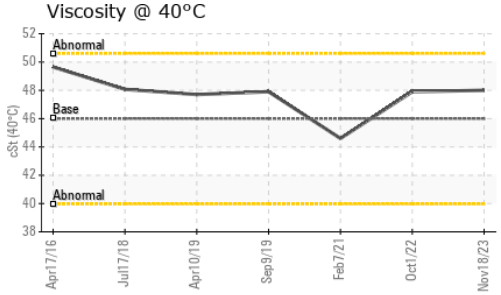
Particle Trend



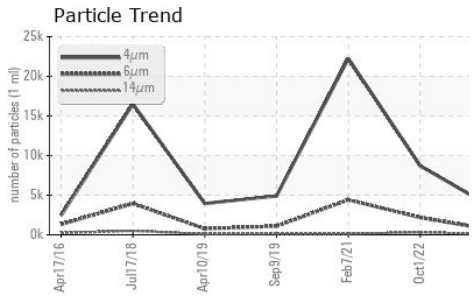

Acid Number




Viscosity @ 40°C




Particle Trend

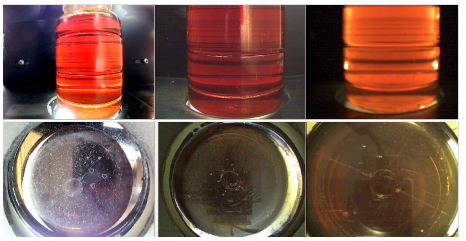



| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | **0.19** | 0.21 | 0.401 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **LIGHT** | 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** | LIGHT | 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 | >0.1 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

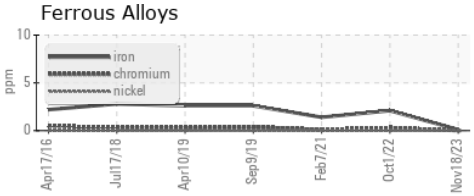
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 46 | **48.0** | 47.9 | 44.6 |

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

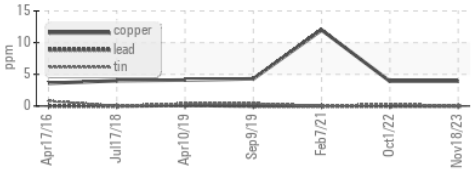


## GRAPHS

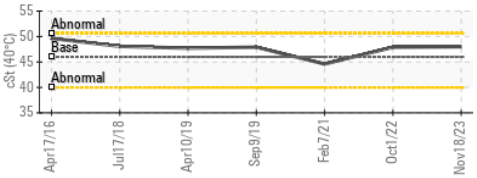
Ferrous Alloys



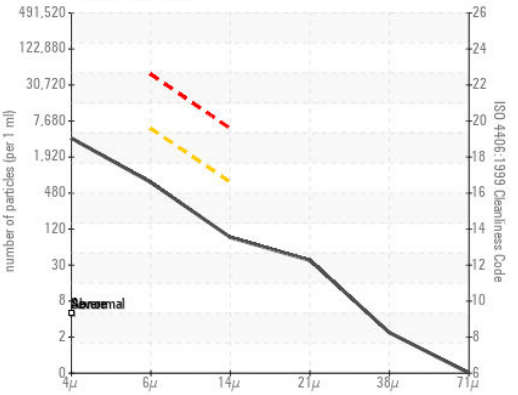

Non-ferrous Metals



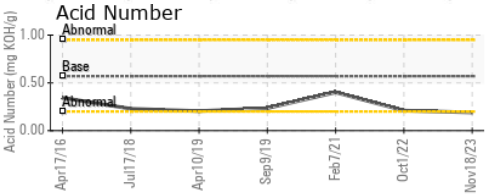

Viscosity @ 40°C




Particle Count




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0858561
**Lab Number** : 06017304
**Unique Number** : 10756448
**Test Package** : IND 2

**Received** : 24 Nov 2023
**Diagnosed** : 29 Nov 2023
**Diagnostician** : Jonathan Hester

*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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