

OIL ANALYSIS REPORT

Area [1128] **BALEMASTER 52100G-10 BALER 2 - TJX (S/N 17105)**

Hydraulic System

AW HYDRAULIC OIL ISO 46 (--- GAL)

Sample Rating Trend



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

| SAMPLE INFORM | MATION | method | limit/base | current | history1 | history2 |
|---|---|---|--|---|---|--|
| Sample Number | | Client Info | | WC0858575 | WC0689428 | WC0556597 |
| Sample Date | | Client Info | | 16 Feb 2024 | 17 Jul 2022 | 19 Jun 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 | ATTENTION | NORMAL |
| CONTAMINATIO | V | 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 | 0 | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >10 | 0 | <1 | 0 |
| Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >75 | 23 | 24 | 25 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | <1 |
| 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 |
| ADDITIVES Boron | ppm | method ASTM D5185m | limit/base | current 0 | history1 | history2 5 |
| | ppm | ASTM D5185m | | | | |
| Boron | | ASTM D5185m | 5 | 0 | 2 | 5 |
| Boron Barium | ppm | ASTM D5185m ASTM D5185m | 5 5 | 0 1 | 2 | 5 |
| Boron Barium Molybdenum | ppm | ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 | 0 1 0 | 2 0 0 | 5 0 <1 |
| Boron Barium Molybdenum Manganese | ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 | 0 1 0 0 | 2 0 0 | 5 0 <1 0 |
| Boron Barium Molybdenum Manganese Magnesium | ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 | 0 1 0 0 <1 | 2 0 0 0 0 0 0 0 | 5 0 <1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium | ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 | 0 1 0 0 <1 45 | 2 0 0 0 0 0 44 | 5 0 <1 0 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus | ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 300 | 0 1 0 0 <1 45 276 | 2 0 0 0 0 0 44 280 | 5 0 <1 0 0 61 295 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 300 370 | 0 1 0 0 <1 45 276 356 | 2 0 0 0 0 0 44 280 343 | 5 0 <1 0 0 61 295 359 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m | 5 5 5 25 200 300 370 2500 | 0 1 0 0 <1 45 276 356 3013 | 2 0 0 0 0 0 44 280 343 3525 | 5 0 <1 0 0 61 295 359 2788 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 5 5 5 25 200 300 370 2500 | 0 1 0 0 <1 45 276 356 3013 | 2 0 0 0 0 0 44 280 343 3525 history1 | 5 0 <1 0 0 61 295 359 2788 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS | ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 5 5 5 25 200 300 370 2500 | 0 1 0 0 <1 45 276 356 3013 current | 2 0 0 0 0 0 44 280 343 3525 history1 | 5 0 <1 0 0 61 295 359 2788 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >20 | 0 1 0 0 <1 45 276 356 3013 current 1 | 2 0 0 0 0 44 280 343 3525 history1 <1 0 | 5 0 <1 0 0 61 295 359 2788 history2 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >20 | 0 1 0 0 <1 45 276 356 3013 current 1 0 | 2 0 0 0 0 44 280 343 3525 history1 <1 0 | 5 0 <1 0 0 61 295 359 2788 history2 <1 <1 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >20 >20 | 0 1 0 0 <1 45 276 356 3013 current 1 0 current | 2 0 0 0 0 44 280 343 3525 history1 <1 0 | 5 0 <1 0 0 61 295 359 2788 history2 <1 0 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >20 >20 | 0 1 0 0 0 45 276 356 3013 | 2 0 0 0 0 44 280 343 3525 history1 <1 0 0 | 5 0 <1 0 0 61 295 359 2788 history2 <1 <1 0 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m method ASTM D5185m | 5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base | 0 1 0 0 | 2 0 0 0 0 44 280 343 3525 history1 <1 0 0 history1 25002 | 5 0 <1 0 0 61 295 359 2788 history2 <1 <1 0 history2 |
| Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm | ppm ppm ppm ppm ppm ppm ppm ppm ppm | ASTM D5185m METHOD ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 | 5 5 5 25 200 300 370 2500 limit/base >20 >20 limit/base | 0 1 0 0 -1 45 276 356 3013 current 1 0 0 current 1060 188 12 | 2 0 0 0 0 44 280 343 3525 history1 <1 0 0 history1 25002 ▲ 6849 555 | 5 0 <1 0 0 61 295 359 2788 history2 <1 <1 0 history2 1467 111 |

ISO 4406 (c) >--/19/16

Oil Cleanliness

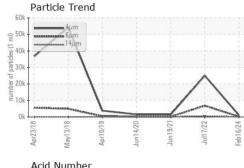
22/20/16

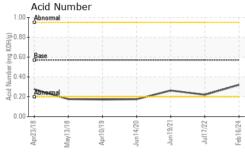
17/15/11

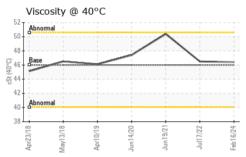
18/14/11

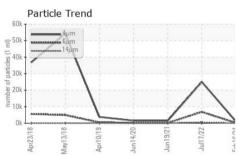


OIL ANALYSIS REPORT









| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------------|----------|------------|------------|---------|----------|----------|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.57 | 0.32 | 0.22 | 0.263 |
| 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 | 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 PROPERT | IES | method | limit/base | current | history1 | history2 |
| Visc @ 40°C | cSt | ASTM D445 | 46 | 46.4 | 46.5 | 50.4 |
| SAMPLE IMAGES | 3 | method | limit/base | current | history1 | history2 |
| Color | | | | | | |

| GRAPHS | | | | | | |
|--|----------------------|------------------------|---|------------------|----------|---|
| Ferrous Alloys | Particle Count | | | | | T 26 |
| iron iron | | | 122,880 | | | -24 |
| - Monta | | | 30,720- | | | -22 |
| Apr23/18 May13/18 Apr10/19 | Jun14/20 | Jul17/22 | 7,680 1,920 480 | | | -20 SO 4406:19 |
| Non-ferrous Met | als | | 원 480 | | | 99 Ce |
| copper tin | 00 | 22 | 30 - 8 Showern | al | | 180 4406:1999 Cleanliness Code |
| Viscosity @ 40°0 | Jun14/20 Jun19/21 | Jull 7/22 Feb 16/24 | 2 0 4 Acid | 6μ 14μ Number | 21μ 3 | 8μ 71μ - 71 |
| Abnormal Abnormal Abnormal Abnormal | | | HON Base | mal | | 1 1 |
| 40 Approximately 40 App | Jun14/20 + | Jul17/22 + | Acid Number (mg KOH/g) April 2000 April | May13/18 | Jun14/20 | Jul17/22 |





Certificate L2367

Laboratory Sample No.

Test Package : IND 2

: WC0858575 Lab Number : 06099111 Unique Number : 10897341

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received

: 23 Feb 2024 **Tested** : 26 Feb 2024 Diagnosed

: 26 Feb 2024 - Wes Davis

ADVANCED EQUIPMENT SALES 535 HAGEY RD SOUDERTON, PA

> US 18964 Contact: JEFF BURNLEY

jburnley@aesales.net

T: (215)723-7200 F: (215)723-7201

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Bottom

* - 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)