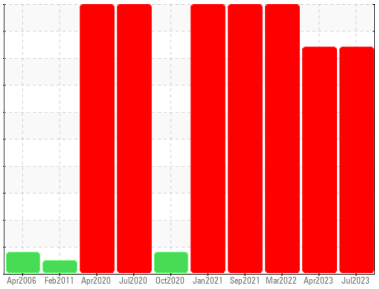
# PROBLEM SUMMARY

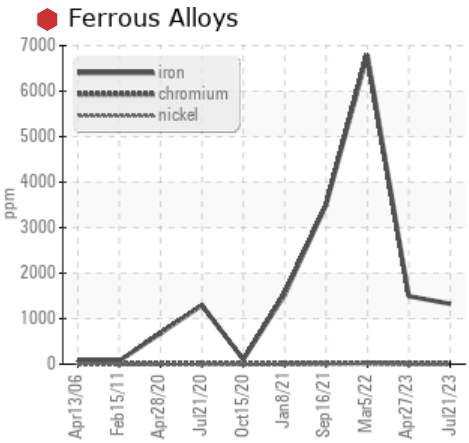
Sample Rating Trend

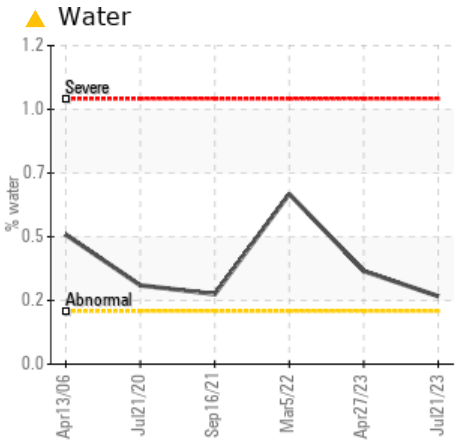


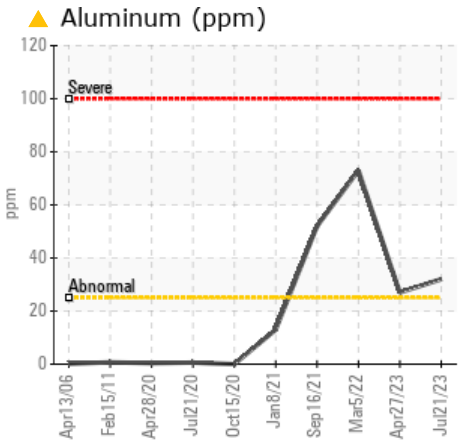

**WEAR**

Machine Id
## 1101400 - FAIRFIELD MFG TORQUE HUB (S/N S3A43355ZB)
Component
**Bottom Gearbox**
Fluid
**GEAR OIL ISO 220 (--- GAL)**

## COMPONENT CONDITION SUMMARY




## RECOMMENDATION

We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

## PROBLEMATIC TEST RESULTS

| Sample Status | | | | **SEVERE** | SEVERE | SEVERE |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | **1325** | 1494 | 6797 |
| Aluminum | ppm | ASTM D5185m | >25 | **32** | 27 | 73 |
| Water | % | ASTM D6304 | >0.2 | **0.256** | 0.351 | 0.641 |
| ppm Water | ppm | ASTM D6304 | >2000 | **2560** | 3510 | 6410 |


**Customer Id:** LEPALL
**Sample No.:** WC0823797
**Lab Number:** 05922358
**Test Package:** IND 2

*To manage this report scan the QR code*

*To discuss the diagnosis or test data:*
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angela.borella@wearcheckusa.com

*To change component or sample information:*
Customer Service +1 1-800-237-1369
customerservice@wearcheck.com

## RECOMMENDED ACTIONS

| Action | Status | Date | Done By | Description |
|---|---|---|---|---|
| Inspect Wear Source | --- | --- | ? | We advise that you inspect for the source(s) of wear. |
| Change Fluid | --- | --- | ? | We recommend that you drain the oil from the component if this has not already been done. |
| Resample | --- | --- | ? | We recommend an early resample to monitor this condition. |
| Check Water Access | --- | --- | ? | We advise that you check for the source of water entry. |

## HISTORICAL DIAGNOSIS

**27 Apr 2023 Diag: Jonathan Hester**

**WEAR**

We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Gear wear is indicated. There is a moderate concentration of water present in the oil. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**view report**

**05 Mar 2022 Diag: Jonathan Hester**

**WEAR**

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Gear wear is indicated. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. There is a moderate concentration of water present in the oil. The oil viscosity is higher than normal. The oil is no longer serviceable due to the presence of contaminants.

**view report**

**16 Sep 2021 Diag: Jonathan Hester**

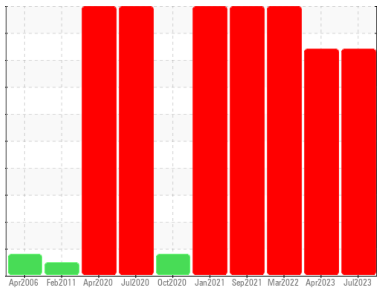
**WEAR**

We advise that you check all areas where dirt can enter the system. We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.Gear wear is indicated. Appearance is hazy. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Free water present. There is a light concentration of water present in the oil. The oil viscosity is higher than normal. The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

**view report**

# OIL ANALYSIS REPORT

Sample Rating Trend




**WEAR**

Machine Id
## 1101400 - FAIRFIELD MFG TORQUE HUB (S/N S3A43355ZB)
Component
**Bottom Gearbox**
Fluid
**GEAR OIL ISO 220 (--- GAL)**

## DIAGNOSIS

**Recommendation**
We advise that you check for the source of water entry. We recommend that you drain the oil from the component if this has not already been done. We advise that you inspect for the source(s) of wear. We recommend an early resample to monitor this condition.

**Wear**
Gear wear is indicated.

**Contamination**
There is a moderate concentration of water present in the oil.

**Fluid Condition**
The AN level is acceptable for this fluid. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **WC0823797** | WC0793923 | WC0641539 |
| Sample Date | | Client Info | | **21 Jul 2023** | 27 Apr 2023 | 05 Mar 2022 |
| Machine Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Age | hrs | Client Info | | **0** | 0 | 0 |
| Oil Changed | | Client Info | | **N/A** | N/A | N/A |
| Sample Status | | | | **SEVERE** | SEVERE | SEVERE |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Iron | ppm | ASTM D5185m | >200 | ● **1325** | ● 1494 | ● 6797 |
| Chromium | ppm | ASTM D5185m | >15 | **11** | 11 | ▲ 24 |
| Nickel | ppm | ASTM D5185m | >15 | **5** | 4 | 13 |
| Titanium | ppm | ASTM D5185m | | **<1** | <1 | <1 |
| Silver | ppm | ASTM D5185m | | **<1** | 0 | 1 |
| Aluminum | ppm | ASTM D5185m | >25 | ▲ **32** | ▲ 27 | ▲ 73 |
| Lead | ppm | ASTM D5185m | >100 | **39** | 36 | 6 |
| Copper | ppm | ASTM D5185m | >200 | **74** | 77 | 38 |
| Tin | ppm | ASTM D5185m | >25 | **6** | 6 | 4 |
| Antimony | ppm | ASTM D5185m | >5 | **---** | --- | --- |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | <1 |
| Cadmium | ppm | ASTM D5185m | | **<1** | <1 | <1 |

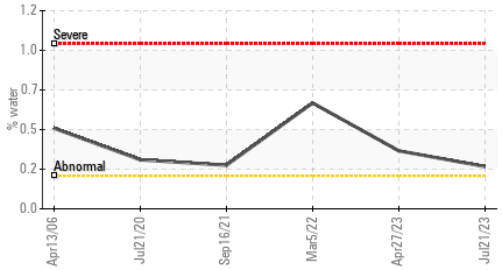
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 50 | **<1** | 1 | 11 |
| Barium | ppm | ASTM D5185m | 15 | **12** | 7 | 0 |
| Molybdenum | ppm | ASTM D5185m | 15 | **1** | 1 | 7 |
| Manganese | ppm | ASTM D5185m | | **14** | 15 | 68 |
| Magnesium | ppm | ASTM D5185m | 50 | **7** | 6 | 5 |
| Calcium | ppm | ASTM D5185m | 50 | **166** | 147 | 336 |
| Phosphorus | ppm | ASTM D5185m | 350 | **291** | 261 | 360 |
| Zinc | ppm | ASTM D5185m | 100 | **306** | 296 | 102 |
| Sulfur | ppm | ASTM D5185m | 12500 | **2674** | 2020 | 3574 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **22** | 23 | ● 321 |
| Sodium | ppm | ASTM D5185m | | **3** | <1 | 5 |
| Potassium | ppm | ASTM D5185m | >20 | **2** | 1 | 0 |
| Water | % | ASTM D6304 | >0.2 | ▲ **0.256** | ▲ 0.351 | ▲ 0.641 |
| ppm Water | ppm | ASTM D6304 | >2000 | ▲ **2560** | ▲ 3510 | ▲ 6410 |

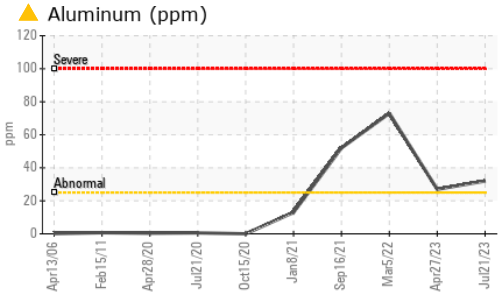
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | 0.85 | **0.33** | 0.32 | 0.08 |

# OIL ANALYSIS REPORT

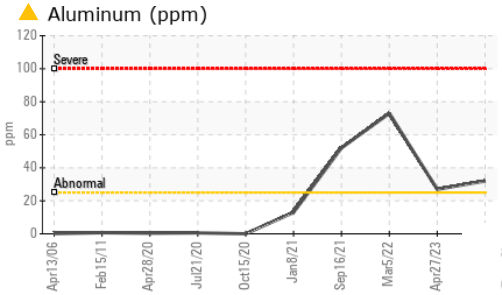
Water



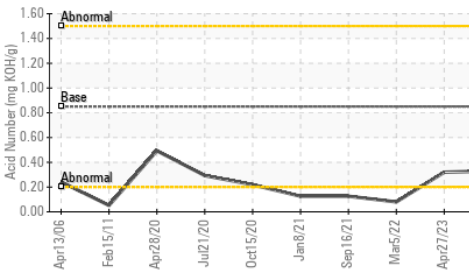

Aluminum (ppm)



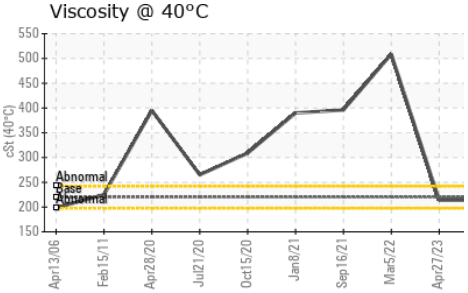

Aluminum (ppm)




Acid Number

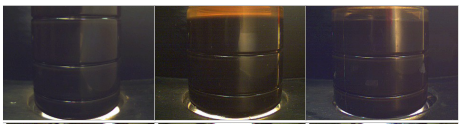
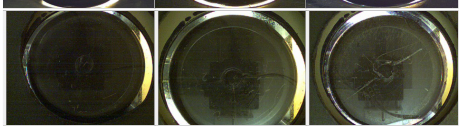



Viscosity @ 40°C



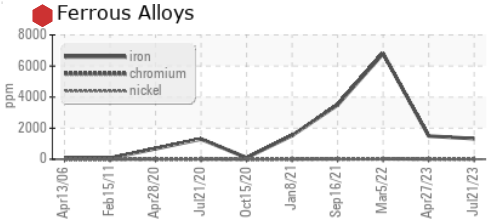

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **MODER** | MODER | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >0.2 | **0.2%** | 0.2% | 0.2% |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 220 | **214** | 214 | ▲ 508.8 |

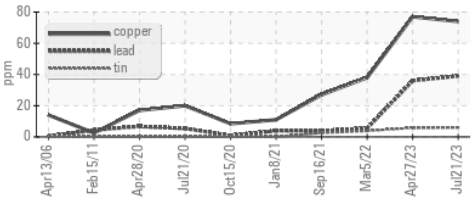
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | |  | | |
| Bottom | | |  | | |

## GRAPHS

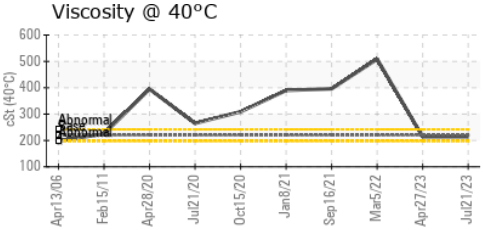
Ferrous Alloys



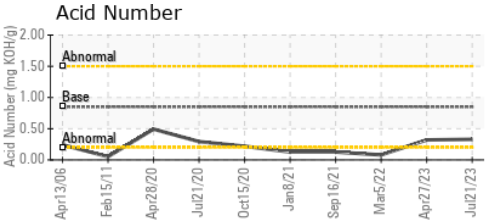

Non-ferrous Metals




Viscosity @ 40°C




Acid Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0823797 **Received** : 11 Aug 2023
**Lab Number** : 05922358 **Diagnosed** : 14 Aug 2023
**Unique Number** : 10602305 **Diagnostician** : Angela Borella
**Test Package** : IND 2 ( Additional Tests: KF )

*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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