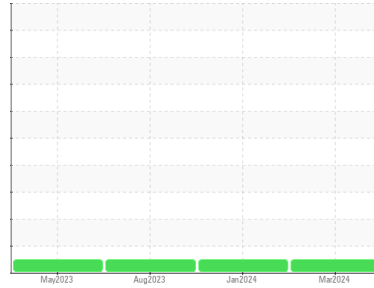


OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Machine Id
TOWER 17S (S/N 002179170-1-1)

Component
Right Gearbox

Fluid
SHELL MORLINA S4 B 220 (18 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | TO60002404 | TO60001410 | TO60001136 |
| Sample Date | Client Info | | | 25 Mar 2024 | 04 Jan 2024 | 03 Aug 2023 |
| 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 | | | | NORMAL | NORMAL | NORMAL |

| CONTAMINATION | | method | limit/base | current | history1 | history2 |
|---------------|-----------|--------|------------|------------|----------|----------|
| Water | WC Method | | >0.2 | NEG | NEG | NEG |

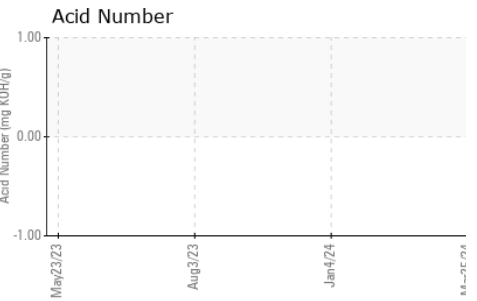
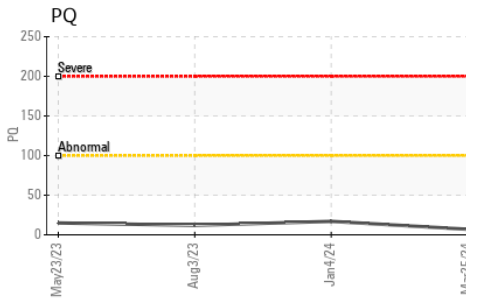
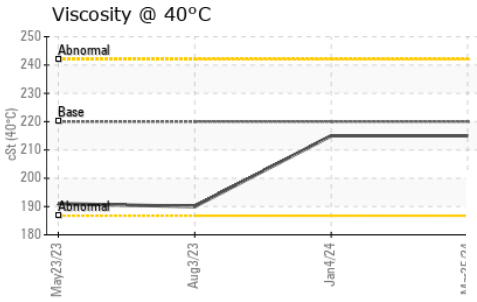
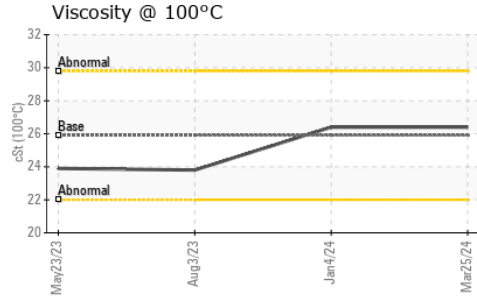
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|----------|----------|----------|
| PQ | | ASTM D8184 | | 7 | 17 | 12 |
| Iron | ppm | ASTM D5185m | >200 | 0 | 0 | 33 |
| Chromium | ppm | ASTM D5185m | >15 | 0 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >15 | 0 | 0 | <1 |
| Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >25 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >100 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >200 | 0 | 0 | 2 |
| Tin | ppm | ASTM D5185m | >25 | 0 | <1 | 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 | | 0 | 0 | 1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 1 |
| Magnesium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Calcium | ppm | ASTM D5185m | | 0 | 0 | <1 |
| Phosphorus | ppm | ASTM D5185m | | 296 | 289 | 258 |
| Zinc | ppm | ASTM D5185m | | 0 | 0 | 8 |
| Sulfur | ppm | ASTM D5185m | | 717 | 609 | 946 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >50 | <1 | 2 | 7 |
| Sodium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 1 |

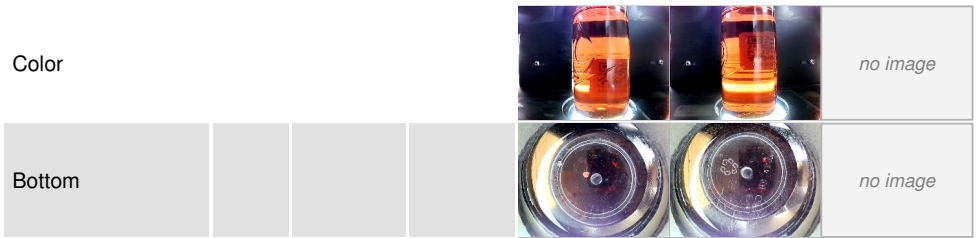
| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|--------------|----------|----------|
| White Metal | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate |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

OIL ANALYSIS REPORT

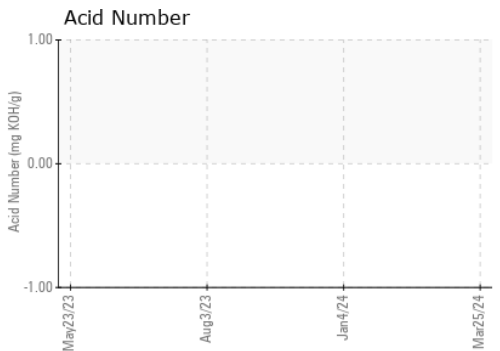
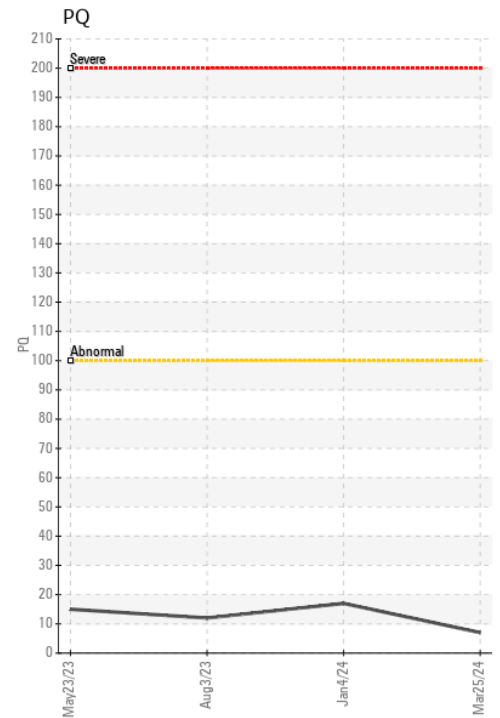
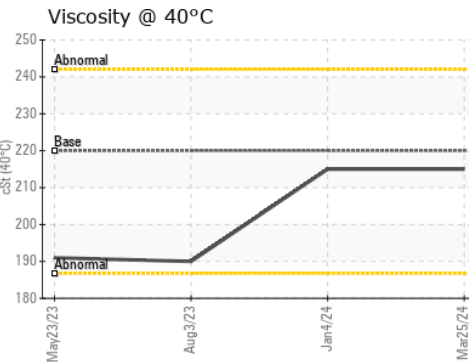
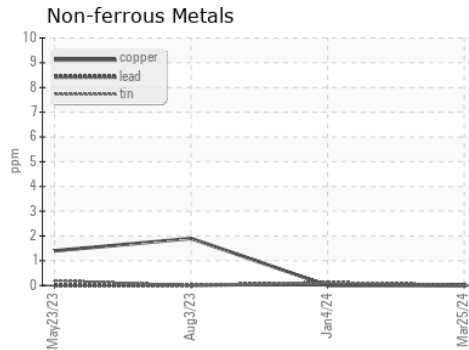
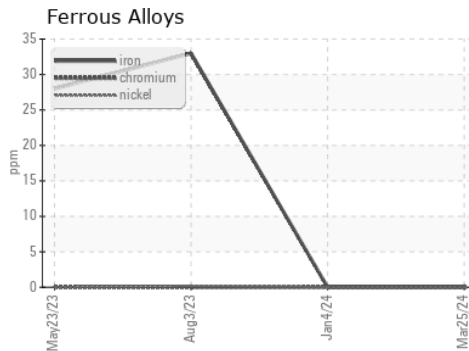


| FLUID PROPERTIES | method | limit/base | current | history1 | history2 | |
|----------------------|--------|------------|---------|-------------|----------|------|
| Visc @ 40°C | cSt | ASTM D445 | 220 | 215 | 215 | 190 |
| Visc @ 100°C | cSt | ASTM D445 | 25.9 | 26.4 | 26.4 | 23.8 |
| Viscosity Index (VI) | Scale | ASTM D2270 | 149 | 156 | 156 | 154 |

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



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO60002404 **Received** : 29 Mar 2024
Lab Number : **06133682** **Tested** : 03 Apr 2024
Unique Number : 10953147 **Diagnosed** : 03 Apr 2024 - Sean Felton
Test Package : IND 2 (Additional Tests: KV100, PQ, VI)

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)

GLAD MANUFACTURING

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 US 72756

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 clay.osterhout@clorox.com

T:
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