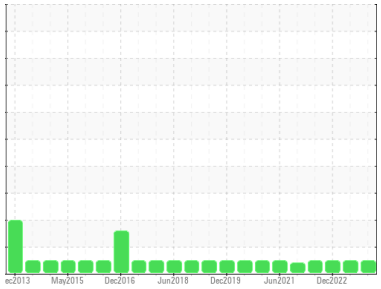
# OIL ANALYSIS REPORT

Sample Rating Trend




**NORMAL**

Area
**422**
Machine Id
## 93-94 MILL MOTOR
Component
**Outboard Journal Bearing**
Fluid
**ESSO NUTO H ISO 68 (1 QTS)**

## 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. The amount and size of particulates present in the system are acceptable.

**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 | | **WC0838843** | WC0397542 | WC0640532 |
| Sample Date | | Client Info | | **10 Nov 2023** | 05 Jul 2023 | 30 Dec 2022 |
| Machine Age | mths | Client Info | | **6** | 0 | 6 |
| Oil Age | mths | Client Info | | **0** | 6 | 0 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| PQ | | ASTM D8184 | | **11** | 13 | 7 |
| Iron | ppm | ASTM D5185m | >60 | **<1** | <1 | <1 |
| Chromium | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >20 | **0** | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Silver | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >4 | **<1** | <1 | 0 |
| Lead | ppm | ASTM D5185m | >250 | **<1** | <1 | <1 |
| Copper | ppm | ASTM D5185m | >125 | **3** | 1 | 2 |
| Tin | ppm | ASTM D5185m | >80 | **<1** | <1 | <1 |
| Vanadium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

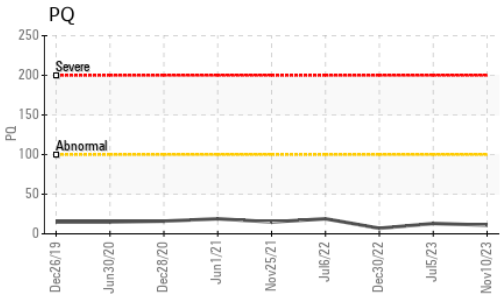
| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | 0 | **0** | 0 | 0 |
| Barium | ppm | ASTM D5185m | 0 | **7** | 0 | 1 |
| Molybdenum | ppm | ASTM D5185m | 0 | **0** | 0 | <1 |
| Manganese | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | 5 | **<1** | 0 | 2 |
| Calcium | ppm | ASTM D5185m | 50 | **39** | 43 | 48 |
| Phosphorus | ppm | ASTM D5185m | 330 | **323** | 326 | 330 |
| Zinc | ppm | ASTM D5185m | 420 | **378** | 412 | 434 |
| Sulfur | ppm | ASTM D5185m | 3100 | **2381** | 2612 | 2625 |

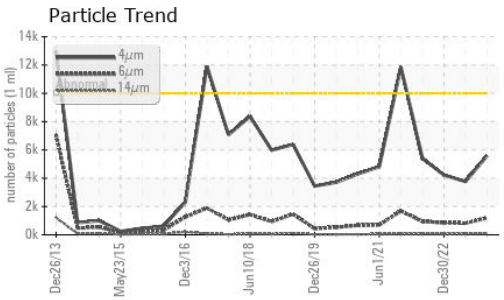
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >50 | **2** | 8 | 2 |
| Sodium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 1 | 2 |

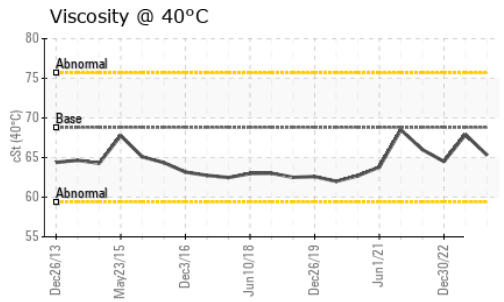
| FLUID CLEANLINESS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Particles >4µm | | ASTM D7647 | >10000 | **5589** | 3762 | 4221 |
| Particles >6µm | | ASTM D7647 | >2500 | **1179** | 817 | 848 |
| Particles >14µm | | ASTM D7647 | >160 | **81** | 65 | 57 |
| Particles >21µm | | ASTM D7647 | >40 | **18** | 17 | 9 |
| Particles >38µm | | ASTM D7647 | >10 | **1** | 3 | 2 |
| Particles >71µm | | ASTM D7647 | >3 | **0** | 0 | 0 |
| Oil Cleanliness | | ISO 4406 (c) | >20/18/14 | **20/17/14** | 19/17/13 | 19/17/13 |

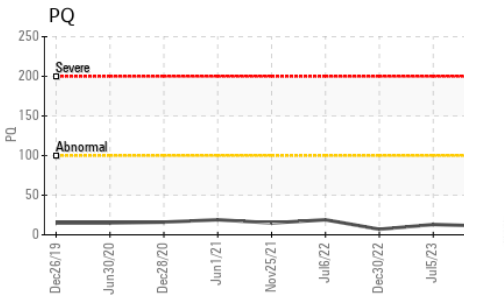
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Acid Number (AN) | mg KOH/g | ASTM D8045 | .40 | **0.34** | 0.35 | 0.36 |

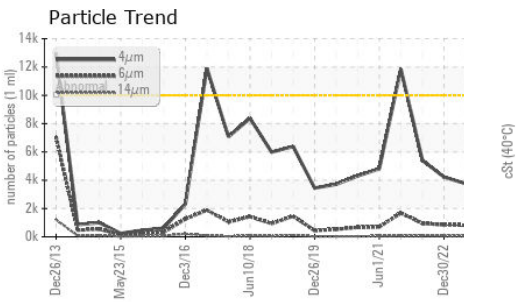
# OIL ANALYSIS REPORT



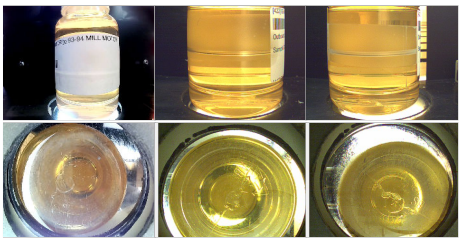



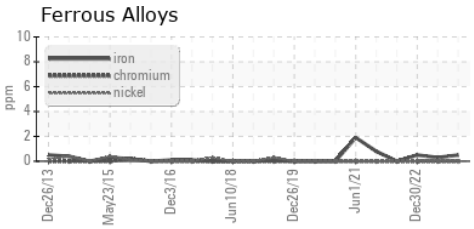

| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 | >2 | **NEG** | NEG | NEG |
| Free Water | scalar | *Visual | | **NEG** | NEG | NEG |

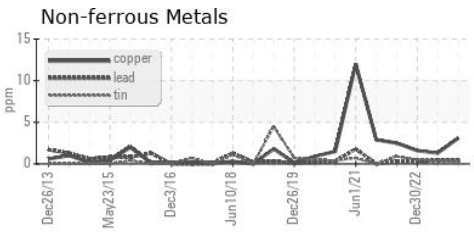
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 40°C | cSt | ASTM D445 | 68.8 | **65.3** | 67.9 | 64.5 |

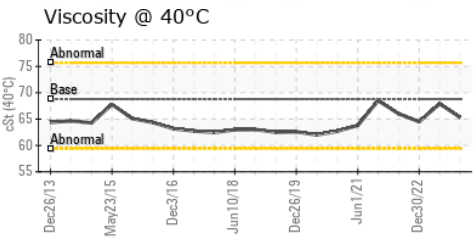
| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|
| Color | | | | | |
| Bottom | | | | | |

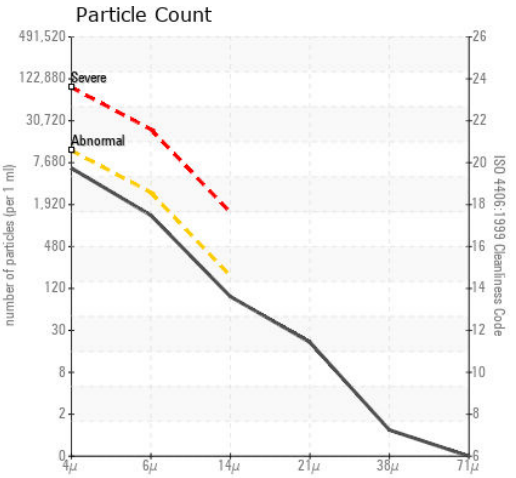


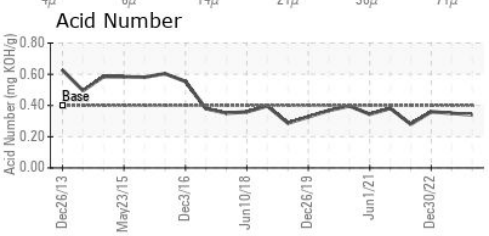
## GRAPHS




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : WC0838843 **Received** : 16 Nov 2023
**Lab Number** : 06009512 **Diagnosed** : 19 Nov 2023
**Unique Number** : 10743274 **Diagnostician** : Don Baldridge
**Test Package** : IND 2 ( Additional Tests: PQ, PrtCount )

*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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