



| | |
|-----------------|---------------|
| WEAR | NORMAL |
| CONTAMINATION | NORMAL |
| FLUID CONDITION | NORMAL |

Machine Id
CAPT MICHAEL D COLLINS (S/N 55326)

Component
Starboard Reduction Gear

Fluid
MOBIL DELVAC 1640 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0050056 | MW0050351 | MW0050347 |
| Sample Date | | Client Info | | 15 Jan 2024 | 22 Dec 2023 | 23 Nov 2023 |
| Machine Age | hrs | Client Info | | 96576 | 0 | 92184 |
| Oil Age | hrs | Client Info | | 1888 | 983 | 536 |
| Filter Age | hrs | Client Info | | 1888 | 983 | 536 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 4 | 25 | 20 |
| 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 | >25 | <1 | 0 | <1 |
| Lead | ppm | ASTM D5185m | >100 | <1 | 0 | 0 |
| Copper | ppm | ASTM D5185m | >50 | 2 | 5 | 6 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

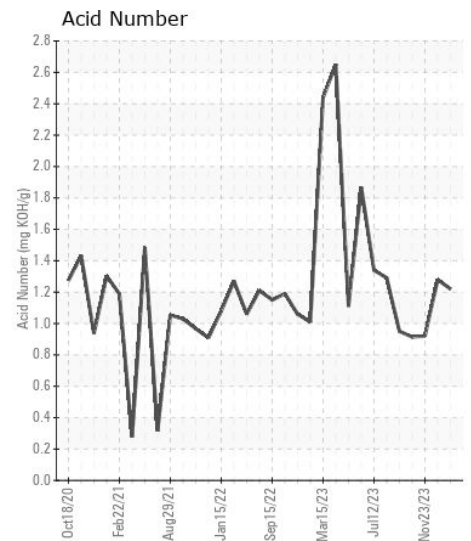
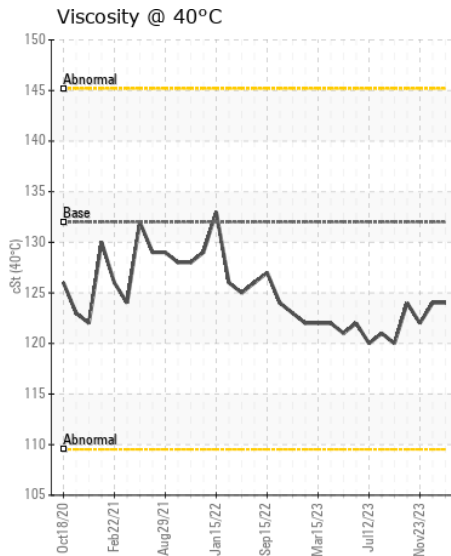
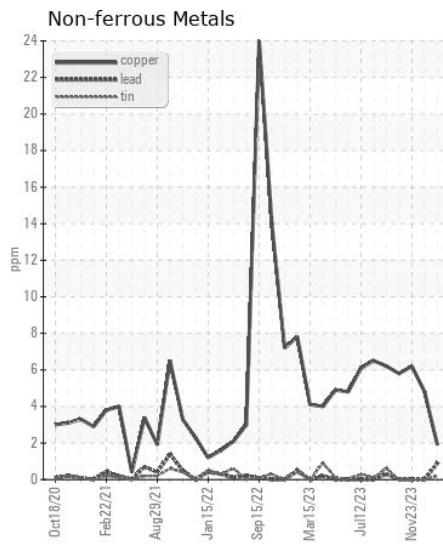
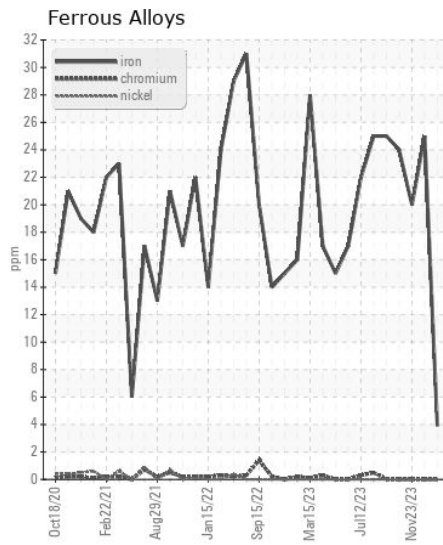
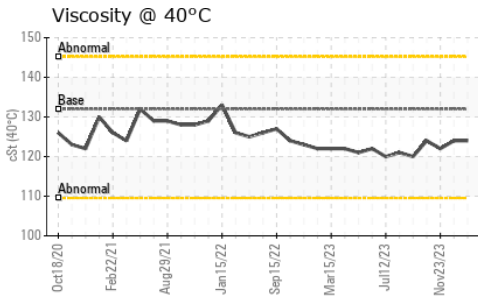
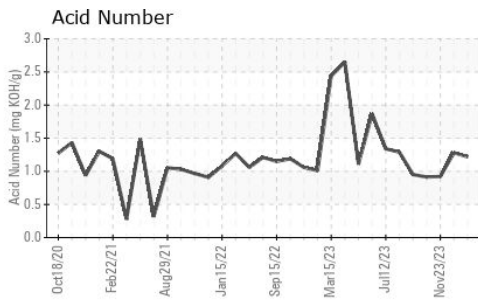
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | 6 | 7 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | 0 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| 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 | >0.1 | NEG | NEG | NEG |

FLUID CONDITION

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

| | | | | | | |
|------------------|----------|-------------|-----|-------------|------|-------|
| Sodium | ppm | ASTM D5185m | | 1 | <1 | 3 |
| Boron | ppm | ASTM D5185m | | 3 | 2 | 1 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 0 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | 1 | 0 | 1 |
| Magnesium | ppm | ASTM D5185m | | 233 | 265 | 251 |
| Calcium | ppm | ASTM D5185m | | 3374 | 3697 | 3367 |
| Phosphorus | ppm | ASTM D5185m | | 845 | 921 | 893 |
| Zinc | ppm | ASTM D5185m | | 951 | 1085 | 983 |
| Sulfur | ppm | ASTM D5185m | | 4584 | 5127 | 4947 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 1.22 | 1.28 | 0.921 |
| Visc @ 40°C | cSt | ASTM D445 | 132 | 124 | 124 | 122 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0050056
Lab Number : 06084926
Unique Number : 10872371
Test Package : MAR 2

Received : 09 Feb 2024
Tested : 12 Feb 2024
Diagnosed : 12 Feb 2024 - Wes Davis

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130
 Contact: RONALD SCHNEIDER
 ronald.schneider@bargaeacbl.com

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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