



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

Machine Id
GERALD SHREVE (S/N 1520)
Component
Starboard Reduction Gear
Fluid
209M (190 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0066698 | MW0066679 | MW0056213 |
| Sample Date | | Client Info | | 01 Jul 2024 | 27 Feb 2024 | 04 Dec 2023 |
| Machine Age | hrs | Client Info | | 86528 | 83816 | 81793 |
| Oil Age | hrs | Client Info | | 1221 | 83816 | 81793 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | None | None | None |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 7 | 16 | 14 |
| Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| Nickel | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >25 | 3 | 2 | 4 |
| Lead | ppm | ASTM D5185m | >100 | 1 | <1 | 1 |
| Copper | ppm | ASTM D5185m | >50 | 5 | 9 | 9 |
| Tin | ppm | ASTM D5185m | >10 | <1 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | 0 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

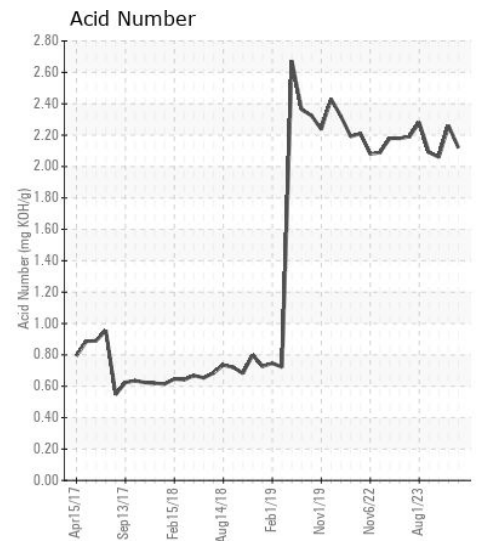
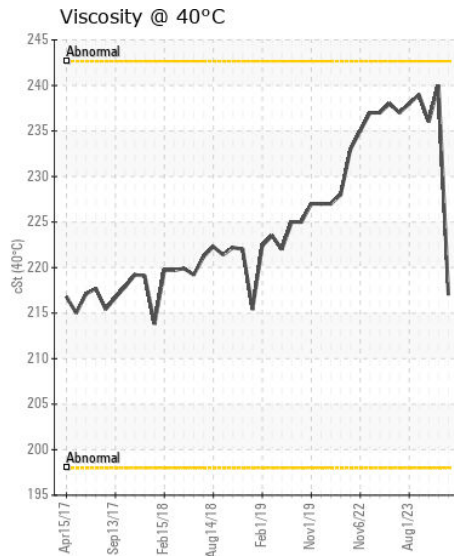
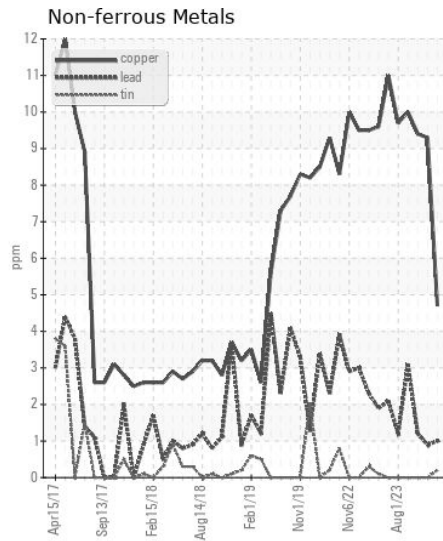
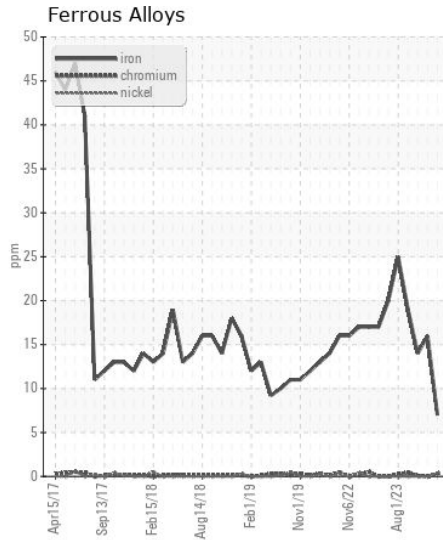
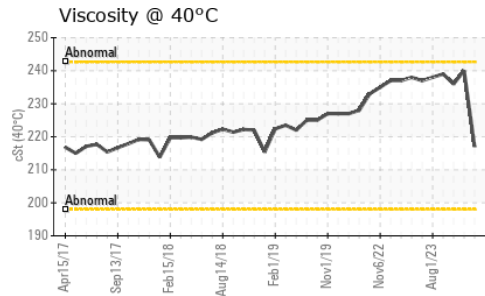
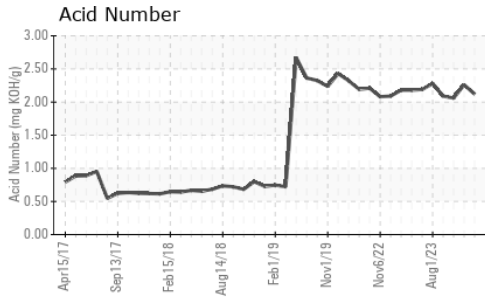
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | 6 | 6 | 6 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 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 | | 0 | 2 | 4 |
| Boron | ppm | ASTM D5185m | | 59 | 29 | 36 |
| Barium | ppm | ASTM D5185m | | 2 | 1 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 308 | 442 | 412 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 12 | 11 | 9 |
| Calcium | ppm | ASTM D5185m | | 89 | 94 | 60 |
| Phosphorus | ppm | ASTM D5185m | | 818 | 847 | 870 |
| Zinc | ppm | ASTM D5185m | | 53 | 52 | 22 |
| Sulfur | ppm | ASTM D5185m | | 21662 | 19440 | 16594 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 2.12 | 2.26 | 2.06 |
| Visc @ 40°C | cSt | ASTM D445 | | 217 | 240 | 236 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0066698
Lab Number : 06239292
Unique Number : 11128126
Test Package : MAR 2

Received : 17 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 19 Jul 2024 - Sean Felton

AMERICAN COMMERCIAL LINES
 PO BOX 610, 1701 E. MARKET STREET
 JEFFERSONVILLE, IN
 US 47130

Contact: RONALD SCHNEIDER
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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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