



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

Machine Id
HALEY MAGNOLIA
Component
Starboard Reduction Gear
Fluid
CHEVRON GEAR COMPOUND EP 220 (112 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW0061845 | MW0061936 | MW0061942 |
| Sample Date | | Client Info | | 01 Jan 2024 | 24 Nov 2023 | 12 Oct 2023 |
| Machine Age | hrs | Client Info | | 5747 | 5258 | 4791 |
| Oil Age | hrs | Client Info | | 5747 | 5258 | 4791 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| Filter Changed | | Client Info | | N/A | Not Changd | None |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|------|
| Iron | ppm | ASTM D5185m | >150 | 16 | 15 | 16 |
| 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 | 0 | 0 | 0 |
| Lead | ppm | ASTM D5185m | >100 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >50 | <1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| White Metal | scalar | *Visual | NONE | LIGHT | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

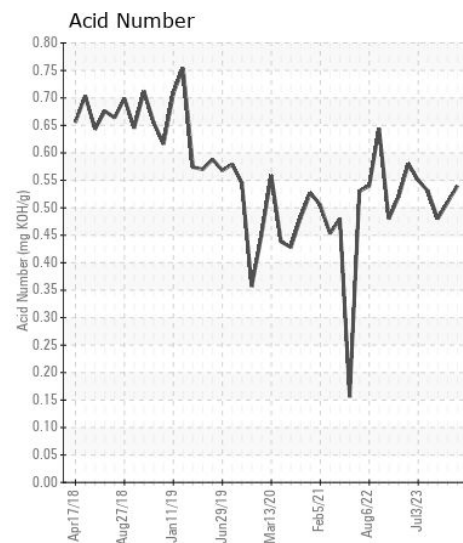
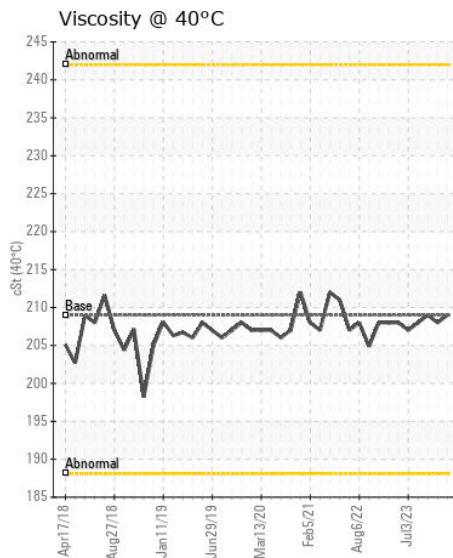
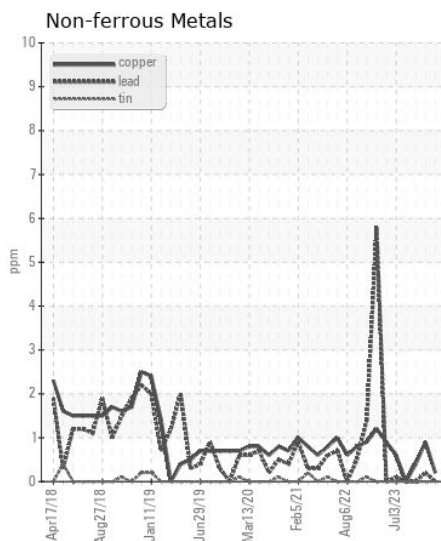
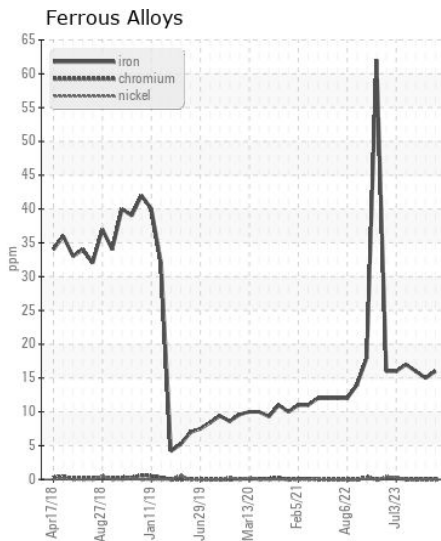
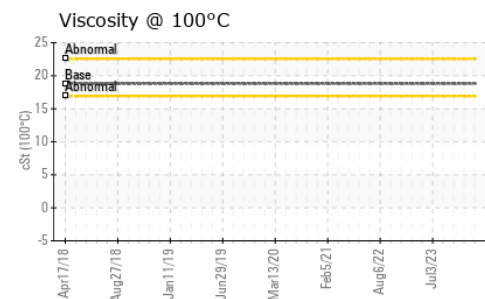
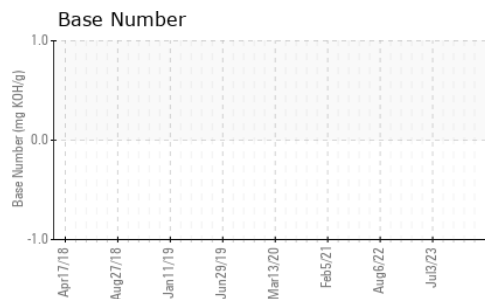
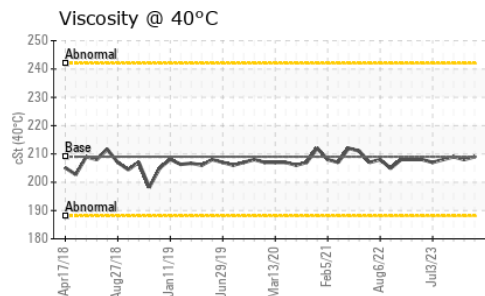
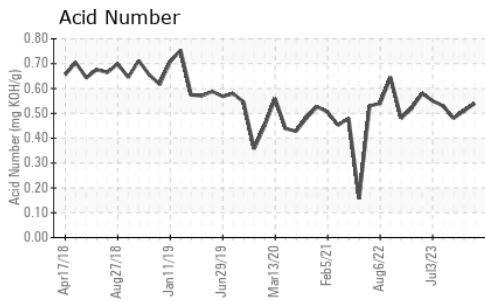
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|--------|-------------|-------|--------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >50 | 6 | 7 | 7 |
| Potassium | ppm | ASTM D5185m | >20 | 5 | 4 | 5 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| 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 | >0.1 | 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 | | 2 | 1 | 2 |
| Boron | ppm | ASTM D5185m | | 13 | 7 | 6 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 1 | <1 | 0 |
| Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Magnesium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Calcium | ppm | ASTM D5185m | | 74 | 16 | 21 |
| Phosphorus | ppm | ASTM D5185m | | 232 | 208 | 230 |
| Zinc | ppm | ASTM D5185m | | 14 | 0 | 4 |
| Sulfur | ppm | ASTM D5185m | | 8368 | 6959 | 7268 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | 0.54 | 0.51 | 0.48 |
| Visc @ 40°C | cSt | ASTM D445 | 209 | 209 | 208 | 209 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : MW0061845

Lab Number : 06125800

Unique Number : 10939951

Test Package : MAR 2 (Additional Tests: FT-IR, KV100, TBN)

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)

Received : 21 Mar 2024

Tested : 25 Mar 2024

Diagnosed : 25 Mar 2024 - Angela Borella

MAGNOLIA MARINE TRANSPORT

697 HAINING ROAD

VICKSBURG, MS

US 39183

Contact: MMT MAINTENANCE PLANNERS

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