



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

Machine Id
AGC
Component
Starboard Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

| Test | UOM | Method | Limit/Abn | Current | History1 | History2 |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number | | Client Info | | MW06017175 | MW06017163 | MW05934671 |
| Sample Date | | Client Info | | 23 Nov 2023 | 23 Nov 2023 | 24 Aug 2023 |
| Machine Age | hrs | Client Info | | 59998 | 59283 | 59195 |
| Oil Age | hrs | Client Info | | 715 | 560 | 231 |
| Filter Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | | Client Info | | N/A | N/A | N/A |
| Filter Changed | | Client Info | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | MARGINAL | MARGINAL |

WEAR

All component wear rates are normal.

| | | | | | | |
|--------------|--------|-------------|------|--------------|------|-------|
| Iron | ppm | ASTM D5185m | >75 | 2 | 0 | 1 |
| Chromium | ppm | ASTM D5185m | >8 | <1 | 0 | 0 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | 0 |
| Titanium | ppm | ASTM D5185m | >3 | 2 | <1 | 0 |
| Silver | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| Aluminum | ppm | ASTM D5185m | >15 | 2 | 2 | 0 |
| Lead | ppm | ASTM D5185m | >18 | 0 | <1 | 0 |
| Copper | ppm | ASTM D5185m | >80 | 1 | <1 | <1 |
| Tin | ppm | ASTM D5185m | >14 | 0 | <1 | 0 |
| Vanadium | ppm | ASTM D5185m | | 0 | <1 | <1 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | LIGHT |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |

CONTAMINATION

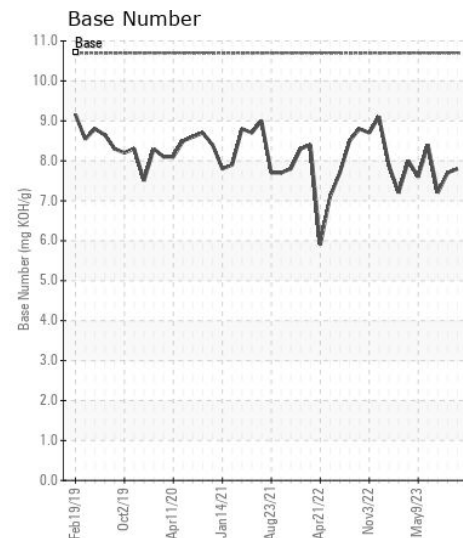
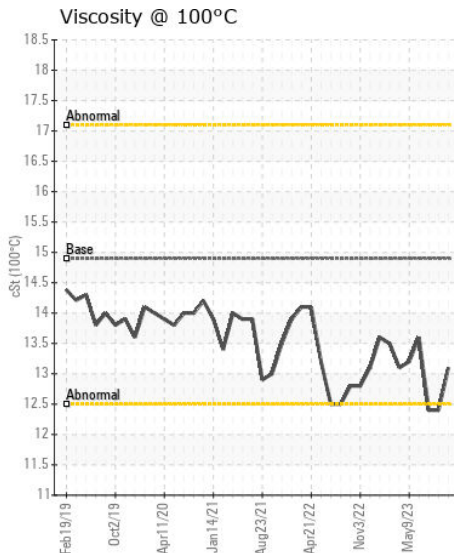
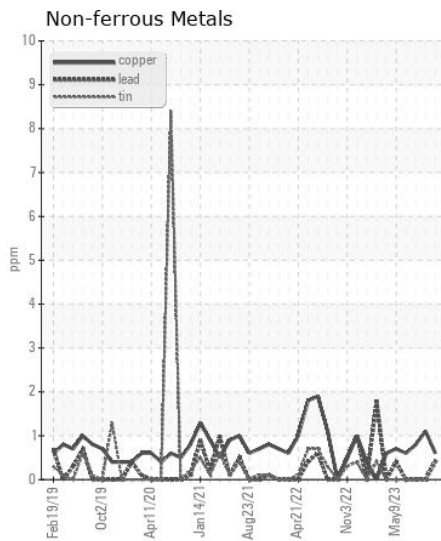
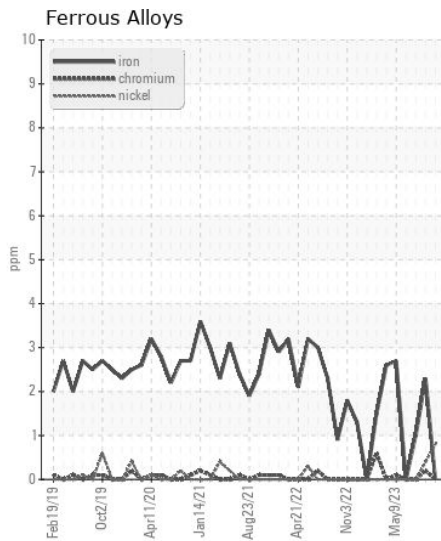
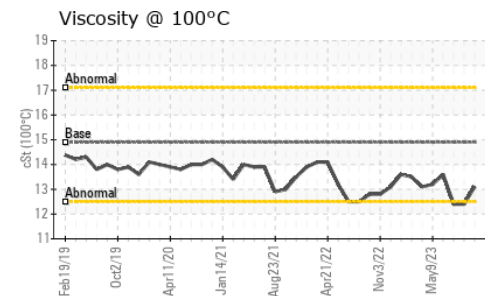
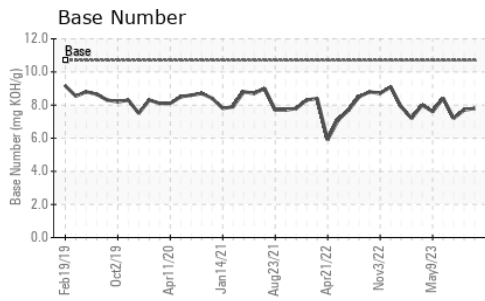
There is no indication of any contamination in the oil.

| | | | | | | |
|------------------|----------|-------------|-------|----------------|-------|-------|
| Silicon | ppm | ASTM D5185m | >20 | 4 | 3 | 3 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | 3 | <1 |
| Fuel | | WC Method | >4.0 | <1.0 | 0.7 | 0.7 |
| Water | | WC Method | >0.1 | NEG | NEG | NEG |
| Glycol | | WC Method | | NEG | NEG | NEG |
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.2 | 5.6 | 6.1 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 20.9 | 18.0 | 16.7 |
| 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

| | | | | | | |
|------------------|----------|-------------|------|--------------|--------|--------|
| Sodium | ppm | ASTM D5185m | >75 | <1 | 2 | 2 |
| Boron | ppm | ASTM D5185m | | 248 | 205 | 251 |
| Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | 83 | 46 | 52 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | 0 |
| Magnesium | ppm | ASTM D5185m | | 496 | 280 | 298 |
| Calcium | ppm | ASTM D5185m | | 1378 | 1677 | 1933 |
| Phosphorus | ppm | ASTM D5185m | 760 | 663 | 937 | 926 |
| Zinc | ppm | ASTM D5185m | 830 | 883 | 1027 | 1118 |
| Sulfur | ppm | ASTM D5185m | 2770 | 3040 | 3251 | 4023 |
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 15.1 | 12.0 | 10.8 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | 10.7 | 7.8 | 7.7 | 7.2 |
| Visc @ 100°C | cSt | ASTM D445 | 14.9 | 13.1 | ▲ 12.4 | ▲ 12.4 |



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW06017175
Lab Number : 06017175
Unique Number : 10756319
Test Package : MAR 2

Received : 24 Nov 2023
Tested : 28 Nov 2023
Diagnosed : 28 Nov 2023 - Wes Davis

ILLINOIS MARINE TOWING
 PO BOX 391
 LEMONT, IL
 US 60439

Contact: RHETT DANIEL
 rdaniel@imtowing.com

T: (630)280-4926
 F: (630)739-2041

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)