



Machine Id  
**MWL**  
Component  
**Starboard Genset**  
Fluid  
**CHEVRON URSA SUPER PLUS 40 (--- GAL)**

**RECOMMENDATION**

No corrective action is recommended at this time. Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current            | History1    | History2    |
|----------------|-----|-------------|-----------|--------------------|-------------|-------------|
| Sample Number  |     | Client Info |           | <b>MW05823793</b>  | MW05749261  | MW05663137  |
| Sample Date    |     | Client Info |           | <b>18 Apr 2023</b> | 24 Jan 2023 | 10 Oct 2022 |
| Machine Age    | hrs | Client Info |           | <b>24000</b>       | 23148       | 22918       |
| Oil Age        | hrs | Client Info |           | <b>340</b>         | 230         | 337         |
| Filter Age     | hrs | Client Info |           | <b>0</b>           | 0           | 0           |
| Oil Changed    |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Filter Changed |     | Client Info |           | <b>N/A</b>         | N/A         | N/A         |
| Sample Status  |     |             |           | <b>ATTENTION</b>   | NORMAL      | ATTENTION   |

**WEAR**

All component wear rates are normal.

|              |        |             |      |              |      |      |
|--------------|--------|-------------|------|--------------|------|------|
| Iron         | ppm    | ASTM D5185m | >25  | <b>5</b>     | 4    | 3    |
| Chromium     | ppm    | ASTM D5185m | >5   | <b>&lt;1</b> | <1   | 0    |
| Nickel       | ppm    | ASTM D5185m | >5   | <b>0</b>     | <1   | 0    |
| Titanium     | ppm    | ASTM D5185m |      | <b>&lt;1</b> | <1   | <1   |
| Silver       | ppm    | ASTM D5185m | >5   | <b>0</b>     | 0    | 0    |
| Aluminum     | ppm    | ASTM D5185m | >10  | <b>0</b>     | 2    | 1    |
| Lead         | ppm    | ASTM D5185m | >10  | <b>&lt;1</b> | 2    | 0    |
| Copper       | ppm    | ASTM D5185m | >20  | <b>&lt;1</b> | <1   | 0    |
| Tin          | ppm    | ASTM D5185m | >5   | <b>&lt;1</b> | 1    | 0    |
| Vanadium     | ppm    | ASTM D5185m |      | <b>0</b>     | <1   | 0    |
| White Metal  | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |
| Yellow Metal | scalar | *Visual     | NONE | <b>NONE</b>  | NONE | NONE |

**CONTAMINATION**

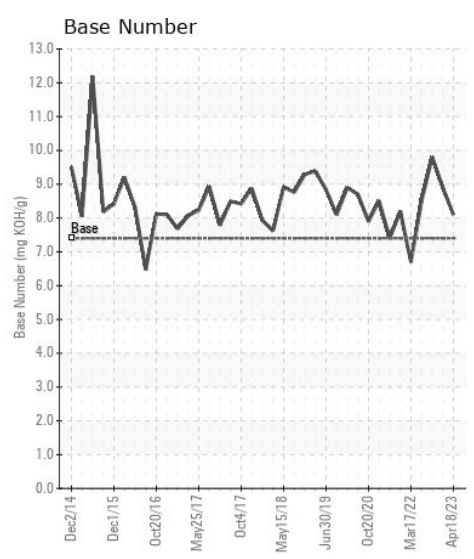
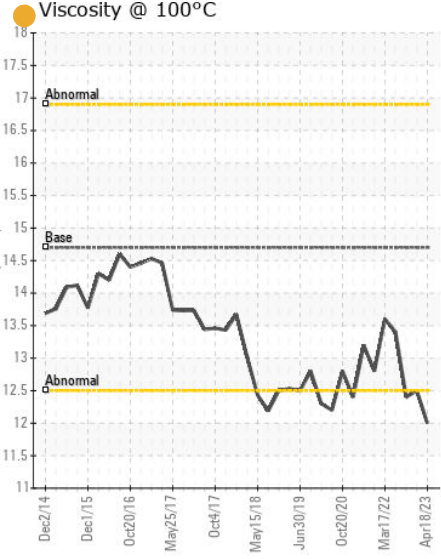
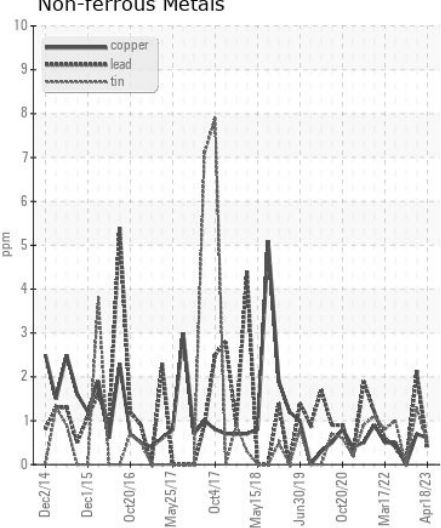
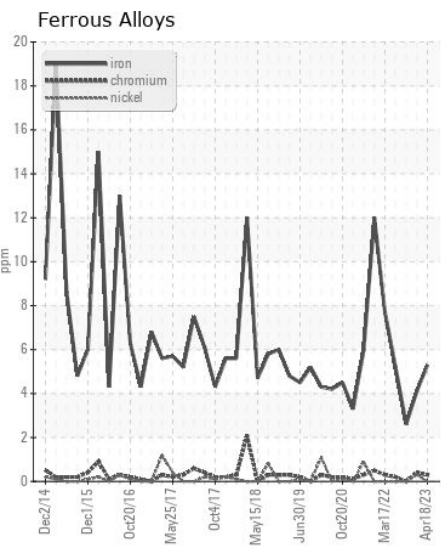
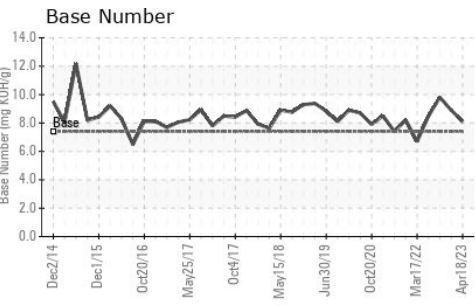
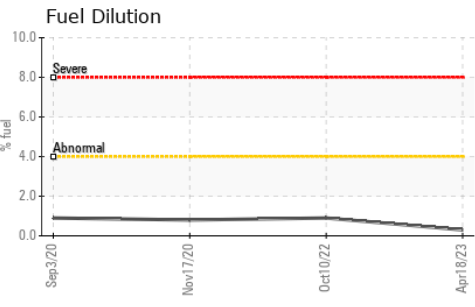
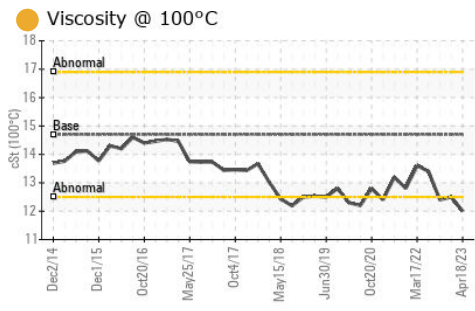
Fuel content negligible. There is no indication of any contamination in the oil.

|                  |          |             |       |              |       |       |
|------------------|----------|-------------|-------|--------------|-------|-------|
| Silicon          | ppm      | ASTM D5185m | >25   | <b>5</b>     | 5     | 3     |
| Potassium        | ppm      | ASTM D5185m | >20   | <b>1</b>     | 3     | 0     |
| Fuel             | %        | ASTM D3524  | >4.0  | <b>0.3</b>   | <1.0  | 0.9   |
| Water            |          | WC Method   | >0.1  | <b>NEG</b>   | NEG   | NEG   |
| Glycol           |          | WC Method   |       | <b>NEG</b>   | NEG   | NEG   |
| Soot %           | %        | *ASTM D7844 |       | <b>0.1</b>   | 0.1   | 0.1   |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | <b>5.2</b>   | 5.0   | 5.9   |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | <b>20.8</b>  | 20.2  | 20.9  |
| Silt             | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Debris           | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Sand/Dirt        | scalar   | *Visual     | NONE  | <b>NONE</b>  | NONE  | NONE  |
| Appearance       | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Odor             | scalar   | *Visual     | NORML | <b>NORML</b> | NORML | NORML |
| Emulsified Water | scalar   | *Visual     | >0.1  | <b>NEG</b>   | NEG   | NEG   |

**FLUID CONDITION**

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

|                  |          |             |      |              |      |      |
|------------------|----------|-------------|------|--------------|------|------|
| Sodium           | ppm      | ASTM D5185m |      | <b>&lt;1</b> | 0    | <1   |
| Boron            | ppm      | ASTM D5185m |      | <b>402</b>   | 252  | 128  |
| Barium           | ppm      | ASTM D5185m |      | <b>0</b>     | 0    | 0    |
| Molybdenum       | ppm      | ASTM D5185m |      | <b>105</b>   | 72   | 73   |
| Manganese        | ppm      | ASTM D5185m |      | <b>&lt;1</b> | <1   | 0    |
| Magnesium        | ppm      | ASTM D5185m |      | <b>529</b>   | 507  | 494  |
| Calcium          | ppm      | ASTM D5185m |      | <b>1465</b>  | 1120 | 1558 |
| Phosphorus       | ppm      | ASTM D5185m | 1000 | <b>845</b>   | 716  | 832  |
| Zinc             | ppm      | ASTM D5185m | 1090 | <b>1012</b>  | 829  | 997  |
| Sulfur           | ppm      | ASTM D5185m |      | <b>2887</b>  | 2782 | 3258 |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | <b>14.8</b>  | 14.3 | 15.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 7.4  | <b>8.1</b>   | 8.9  | 9.8  |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.7 | <b>12.0</b>  | 12.5 | 12.4 |



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW05823793 **Received** : 19 Apr 2023  
**Lab Number** : 05823793 **Tested** : 21 Apr 2023  
**Unique Number** : 10431876 **Diagnosed** : 21 Apr 2023 - Don Baldrige  
**Test Package** : MAR 2 ( Additional Tests: FuelDilution, PercentFuel )

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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)