



OIL ANALYSIS REPORT

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

Area  
**[WALLENBERG SURVEY]**  
 Machine Id  
**VOLVO PENTA 7011390808**  
 Component  
**Starboard Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 15W40 (10 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

| Test           | UOM | Method      | Limit/Abn | Current     | History1 | History2 |
|----------------|-----|-------------|-----------|-------------|----------|----------|
| Sample Number  |     | Client Info |           | VPA044342   | ---      | ---      |
| Sample Date    |     | Client Info |           | 12 Feb 2024 | ---      | ---      |
| Machine Age    | hrs | Client Info |           | 954         | ---      | ---      |
| Oil Age        | hrs | Client Info |           | 0           | ---      | ---      |
| Filter Age     | hrs | Client Info |           | 0           | ---      | ---      |
| Oil Changed    |     | Client Info |           | Not Chngd   | ---      | ---      |
| Filter Changed |     | Client Info |           | Not Chngd   | ---      | ---      |
| Sample Status  |     |             |           | NORMAL      | ---      | ---      |

**WEAR**

All component wear rates are normal.

|              |        |             |      |      |     |     |
|--------------|--------|-------------|------|------|-----|-----|
| Iron         | ppm    | ASTM D5185m | >80  | 6    | --- | --- |
| Chromium     | ppm    | ASTM D5185m | >6   | <1   | --- | --- |
| Nickel       | ppm    | ASTM D5185m | >2   | <1   | --- | --- |
| Titanium     | ppm    | ASTM D5185m | >2   | 0    | --- | --- |
| Silver       | ppm    | ASTM D5185m | >2   | 0    | --- | --- |
| Aluminum     | ppm    | ASTM D5185m | >20  | 2    | --- | --- |
| Lead         | ppm    | ASTM D5185m | >95  | <1   | --- | --- |
| Copper       | ppm    | ASTM D5185m | >85  | 7    | --- | --- |
| Tin          | ppm    | ASTM D5185m | >9   | 0    | --- | --- |
| Vanadium     | ppm    | ASTM D5185m |      | 0    | --- | --- |
| White Metal  | scalar | *Visual     | NONE | NONE | --- | --- |
| Yellow Metal | scalar | *Visual     | NONE | NONE | --- | --- |

**CONTAMINATION**

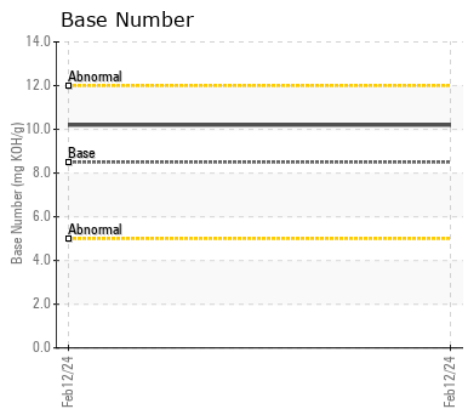
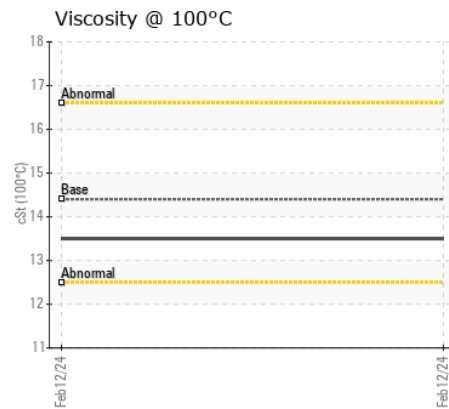
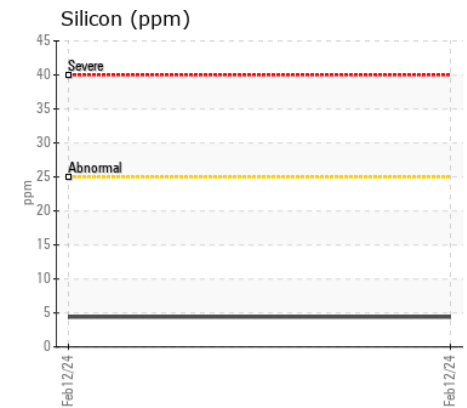
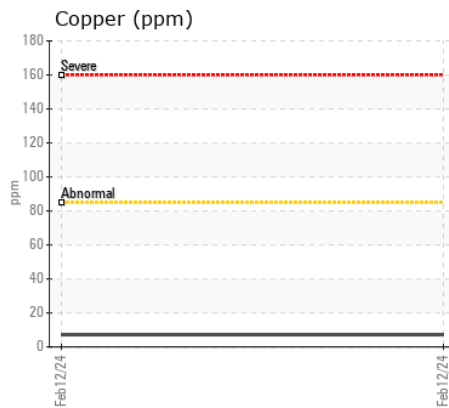
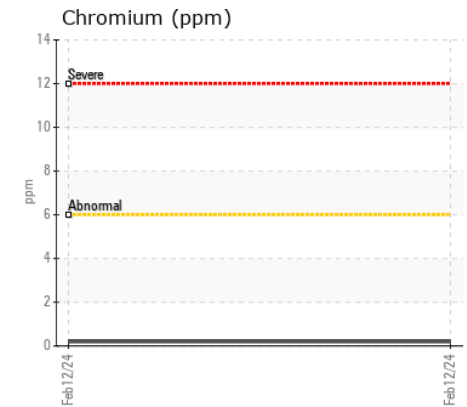
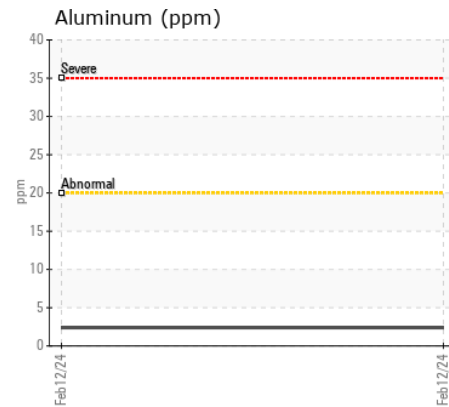
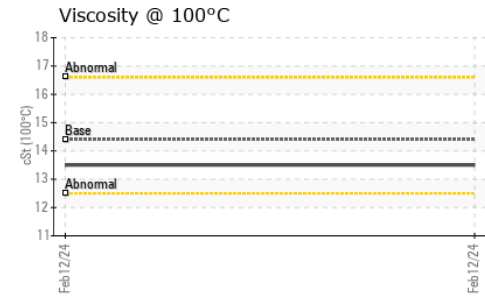
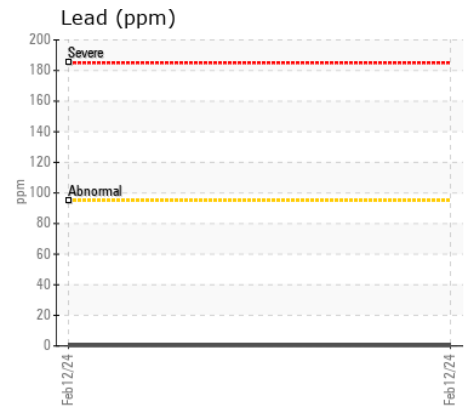
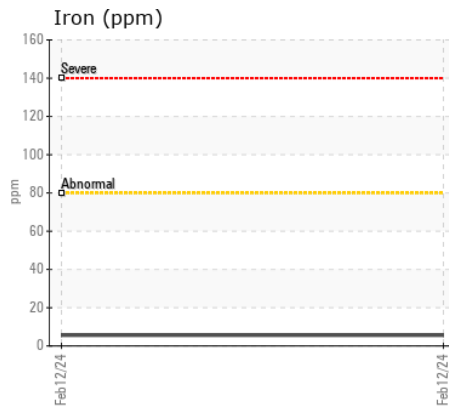
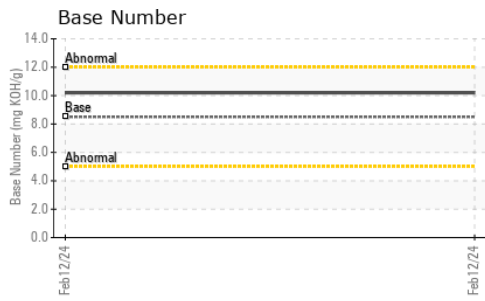
There is no indication of any contamination in the oil.

|                  |          |             |       |       |     |     |
|------------------|----------|-------------|-------|-------|-----|-----|
| Silicon          | ppm      | ASTM D5185m | >25   | 4     | --- | --- |
| Potassium        | ppm      | ASTM D5185m | >20   | <1    | --- | --- |
| Fuel             |          | WC Method   | >4.0  | <1.0  | --- | --- |
| Water            |          | WC Method   | >0.1  | NEG   | --- | --- |
| Glycol           |          | WC Method   |       | NEG   | --- | --- |
| Soot %           | %        | *ASTM D7844 |       | 0.1   | --- | --- |
| Nitration        | Abs/cm   | *ASTM D7624 | >20   | 4.7   | --- | --- |
| Sulfation        | Abs/.1mm | *ASTM D7415 | >30   | 18.0  | --- | --- |
| Silt             | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Debris           | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Sand/Dirt        | scalar   | *Visual     | NONE  | NONE  | --- | --- |
| Appearance       | scalar   | *Visual     | NORML | NORML | --- | --- |
| Odor             | scalar   | *Visual     | NORML | NORML | --- | --- |
| Emulsified Water | scalar   | *Visual     | >0.1  | NEG   | --- | --- |

**FLUID CONDITION**

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

|                  |          |             |      |      |     |     |
|------------------|----------|-------------|------|------|-----|-----|
| Sodium           | ppm      | ASTM D5185m | >158 | 0    | --- | --- |
| Boron            | ppm      | ASTM D5185m | 250  | <1   | --- | --- |
| Barium           | ppm      | ASTM D5185m | 10   | 0    | --- | --- |
| Molybdenum       | ppm      | ASTM D5185m | 100  | 61   | --- | --- |
| Manganese        | ppm      | ASTM D5185m |      | <1   | --- | --- |
| Magnesium        | ppm      | ASTM D5185m | 450  | 952  | --- | --- |
| Calcium          | ppm      | ASTM D5185m | 3000 | 1027 | --- | --- |
| Phosphorus       | ppm      | ASTM D5185m | 1150 | 961  | --- | --- |
| Zinc             | ppm      | ASTM D5185m | 1350 | 1278 | --- | --- |
| Sulfur           | ppm      | ASTM D5185m | 4250 | 3351 | --- | --- |
| Oxidation        | Abs/.1mm | *ASTM D7414 | >25  | 13.1 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896  | 8.5  | 10.2 | --- | --- |
| Visc @ 100°C     | cSt      | ASTM D445   | 14.4 | 13.5 | --- | --- |



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : VPA044342 **Received** : 14 Feb 2024  
**Lab Number** : 06089232 **Tested** : 15 Feb 2024  
**Unique Number** : 10876677 **Diagnosed** : 16 Feb 2024 - Sean Felton  
**Test Package** : MOB 1 ( Additional Tests: TBN )

**Suncoast Diesel Marine Inc.**  
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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)