



# WEAR CHECK

## OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id  
**DETROIT CAROLINE**  
Component  
**Starboard Genset**  
Fluid  
**KENDALL SUPER-D 3 SAE 15W40 (--- GAL)**

### RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0843991	---	---
Sample Date		Client Info		07 Dec 2023	---	---
Machine Age	hrs	Client Info		9952	---	---
Oil Age	hrs	Client Info		1500	---	---
Filter Age	hrs	Client Info		1500	---	---
Oil Changed		Client Info		Changed	---	---
Filter Changed		Client Info		Changed	---	---
Sample Status				NORMAL	---	---

### WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	8	---	---
Chromium	ppm	ASTM D5185m	>4	<1	---	---
Nickel	ppm	ASTM D5185m	>2	0	---	---
Titanium	ppm	ASTM D5185m		<1	---	---
Silver	ppm	ASTM D5185m	>5	0	---	---
Aluminum	ppm	ASTM D5185m	>12	1	---	---
Lead	ppm	ASTM D5185m	>17	0	---	---
Copper	ppm	ASTM D5185m	>70	3	---	---
Tin	ppm	ASTM D5185m	>15	2	---	---
Vanadium	ppm	ASTM D5185m		0	---	---
White Metal	scalar	*Visual	NONE	NONE	---	---
Yellow Metal	scalar	*Visual	NONE	NONE	---	---

### CONTAMINATION

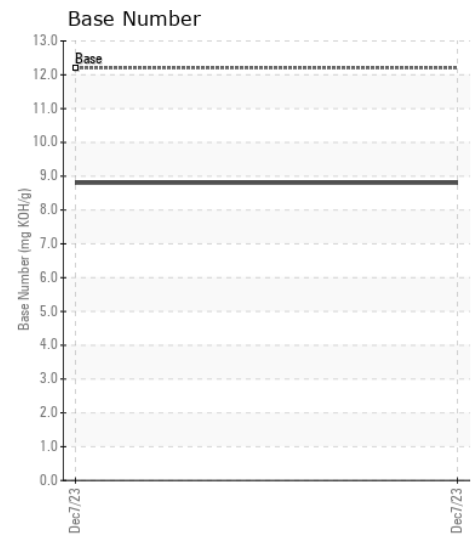
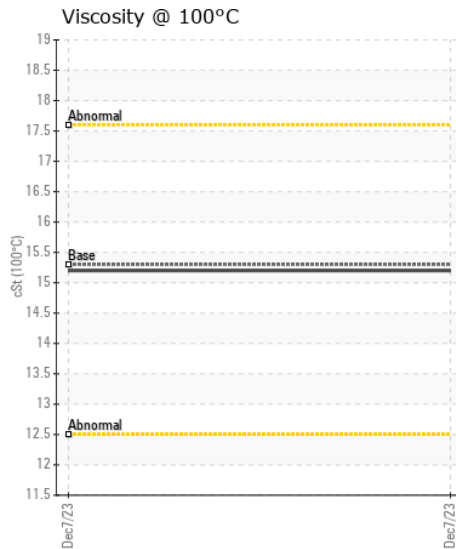
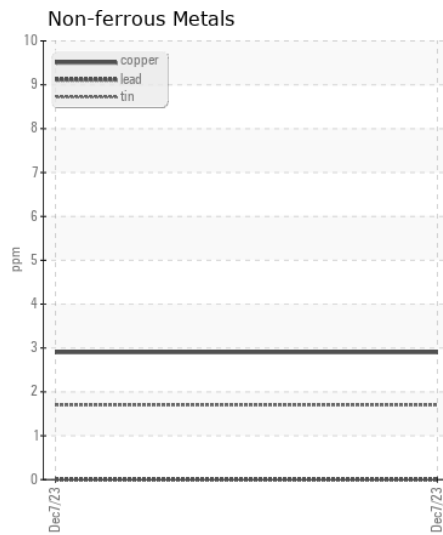
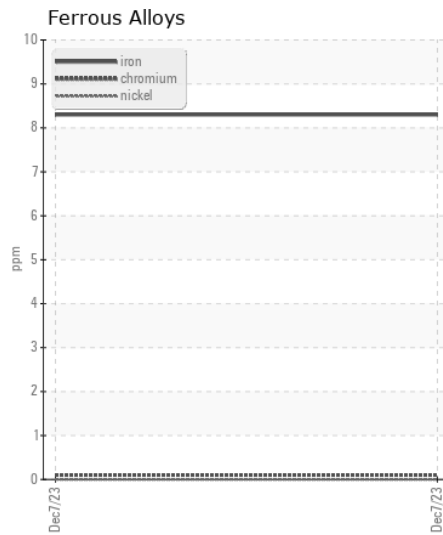
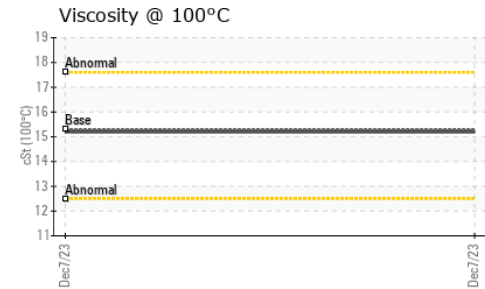
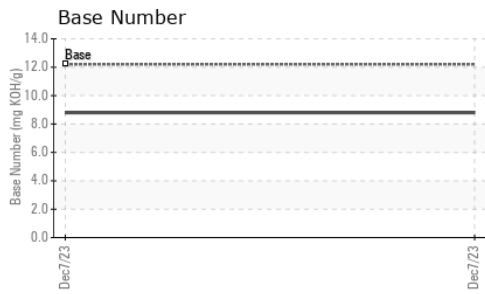
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	3	---	---
Potassium	ppm	ASTM D5185m	>20	0	---	---
Fuel		WC Method	>4.0	<1.0	---	---
Water		WC Method	>0.1	NEG	---	---
Glycol		WC Method		NEG	---	---
Soot %	%	*ASTM D7844		0.2	---	---
Nitration	Abs/cm	*ASTM D7624	>20	7.9	---	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.1	---	---
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 suitable for further service.

Sodium	ppm	ASTM D5185m		3	---	---
Boron	ppm	ASTM D5185m		31	---	---
Barium	ppm	ASTM D5185m		0	---	---
Molybdenum	ppm	ASTM D5185m		29	---	---
Manganese	ppm	ASTM D5185m		<1	---	---
Magnesium	ppm	ASTM D5185m		22	---	---
Calcium	ppm	ASTM D5185m		3560	---	---
Phosphorus	ppm	ASTM D5185m		437	---	---
Zinc	ppm	ASTM D5185m	1450	540	---	---
Sulfur	ppm	ASTM D5185m		3362	---	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.4	---	---
Base Number (BN)	mg KOH/g	ASTM D2896	12.2	8.8	---	---
Visc @ 100°C	cSt	ASTM D445	15.3	15.2	---	---



Certificate L2367

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

**Sample No.** : WC0843991

**Lab Number** : 06083004

**Unique Number** : 10870449

**Test Package** : FLEET

**Received** : 07 Feb 2024

**Tested** : 08 Feb 2024

**Diagnosed** : 09 Feb 2024 - Don Baldrige

**SUPERIOR MARINE**

201 KELLY LANE

CHESAPEAKE, OH

US 45619

Contact: DARRELL KEARNS

darrellkearns@superiormarineinc.com

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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F: