



WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Machine Id  
**CAPT MICHAEL D COLLINS (S/N 85215650)**

Component  
**Starboard Genset**

Fluid  
**CHEVRON DELO 400 XLE 15W40 (7 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0050063</b>	MW0050348	MW0050515
Sample Date		Client Info		<b>10 Jan 2024</b>	21 Nov 2023	12 Oct 2023
Machine Age	hrs	Client Info		<b>8771</b>	8252	7701
Oil Age	hrs	Client Info		<b>500</b>	562	500
Filter Age	hrs	Client Info		<b>500</b>	562	500
Oil Changed		Client Info		<b>Changed</b>	N/A	N/A
Filter Changed		Client Info		<b>Changed</b>	N/A	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>35</b>	26	21
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>18</b>	16	14
Silver	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	1	1
Lead	ppm	ASTM D5185m	>17	<b>2</b>	2	0
Copper	ppm	ASTM D5185m	>70	<b>3</b>	2	<1
Tin	ppm	ASTM D5185m	>15	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

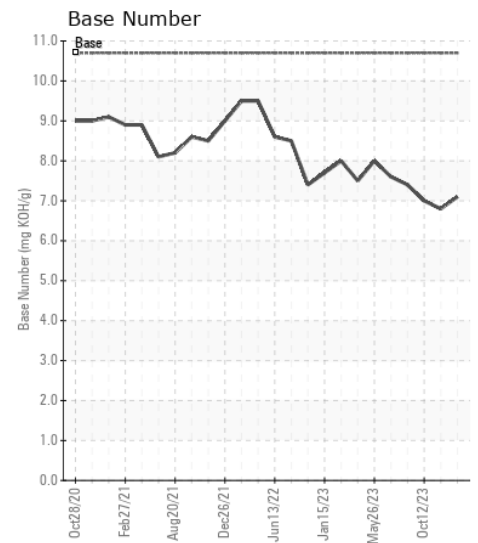
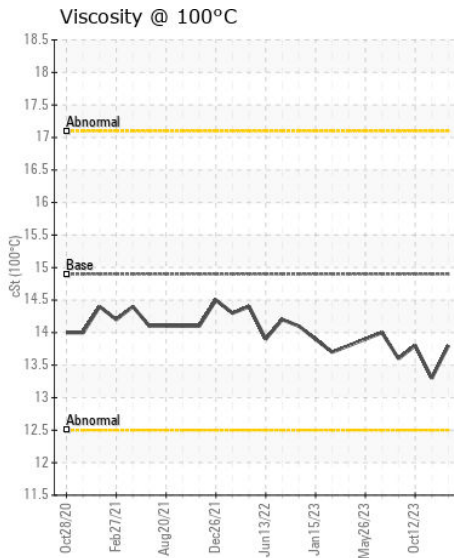
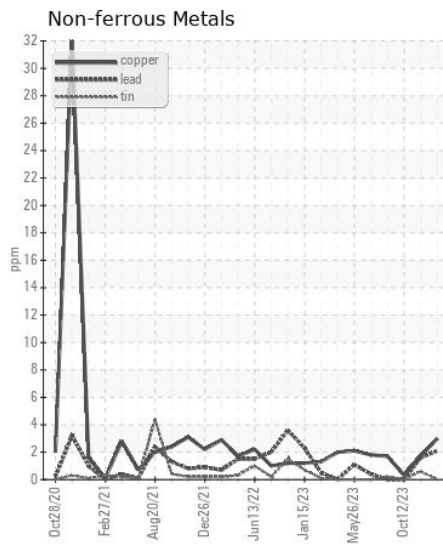
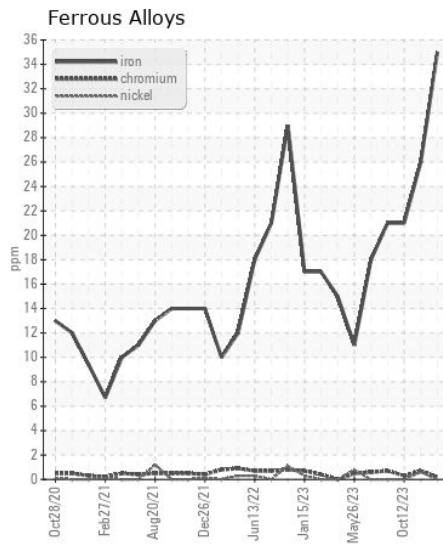
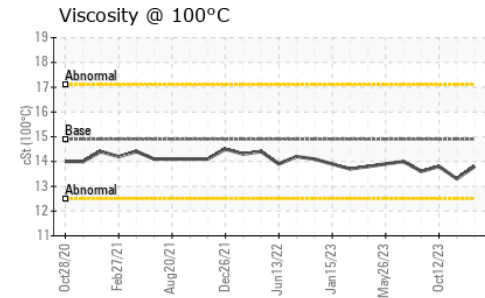
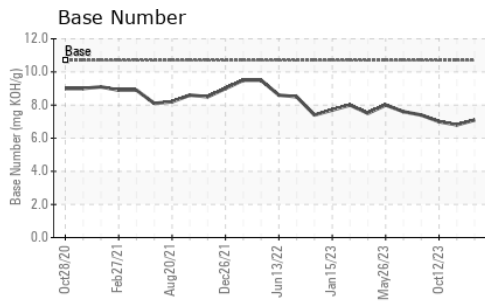
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	5	1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.4</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>11.3</b>	11.1	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.8</b>	21.2	20.2
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 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		<b>0</b>	0	1
Boron	ppm	ASTM D5185m		<b>79</b>	73	60
Barium	ppm	ASTM D5185m		<b>25</b>	11	<1
Molybdenum	ppm	ASTM D5185m		<b>35</b>	31	29
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>722</b>	684	718
Calcium	ppm	ASTM D5185m		<b>1534</b>	1531	1485
Phosphorus	ppm	ASTM D5185m	760	<b>785</b>	699	710
Zinc	ppm	ASTM D5185m	830	<b>879</b>	824	837
Sulfur	ppm	ASTM D5185m	2770	<b>3051</b>	3529	2914
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>20.1</b>	19.7	18.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>7.1</b>	6.8	7.0
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.8</b>	13.3	13.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0050063  
**Lab Number** : 06084590  
**Unique Number** : 10872035  
**Test Package** : MAR 2

**Received** : 09 Feb 2024  
**Tested** : 12 Feb 2024  
**Diagnosed** : 12 Feb 2024 - Sean Felton

**AMERICAN COMMERCIAL LINES**  
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 US 47130  
 Contact: RONALD SCHNEIDER  
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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)

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