



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

Area  
**EILEEN BIGELOW**  
Machine Id  
**[EILEEN BIGELOW] 003 588445-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (230 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW06055522</b>	MW06056007	MW05980638
Sample Date		Client Info		<b>01 Dec 2023</b>	01 Nov 2023	01 Oct 2023
Machine Age	hrs	Client Info		<b>4218</b>	3501	2910
Oil Age	hrs	Client Info		<b>4218</b>	0	2910
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>NORMAL</b>	---	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>11</b>	14	17
Chromium	ppm	ASTM D5185m	>8	<b>1</b>	1	2
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	1	2
Lead	ppm	ASTM D5185m	>18	<b>5</b>	6	9
Copper	ppm	ASTM D5185m	>80	<b>14</b>	15	18
Tin	ppm	ASTM D5185m	>14	<b>6</b>	6	8
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

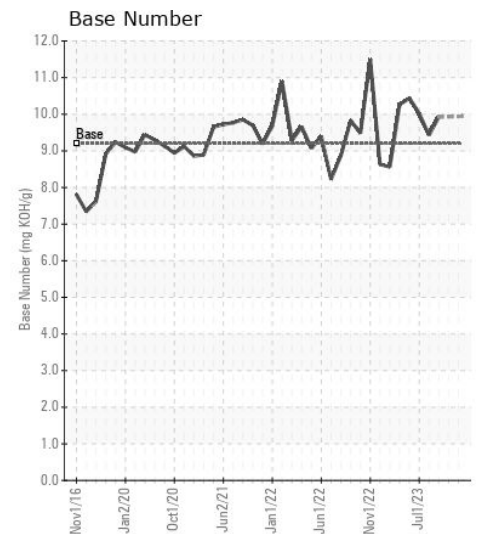
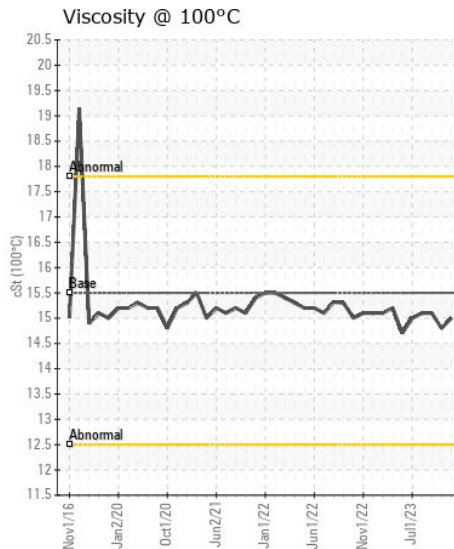
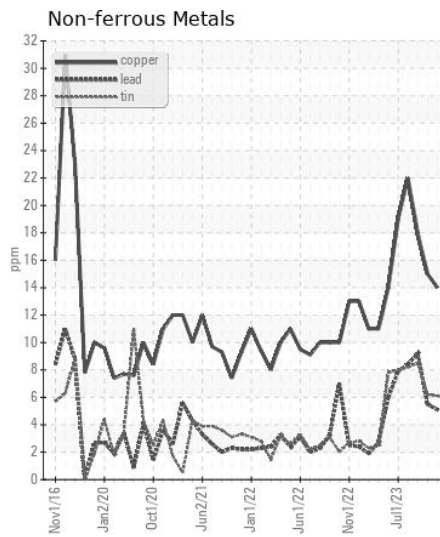
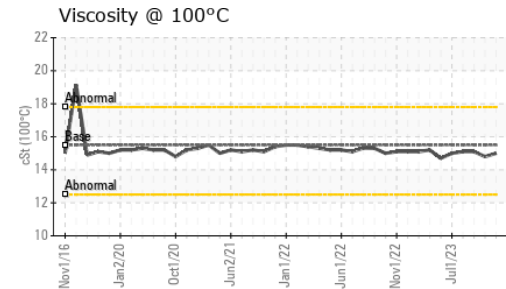
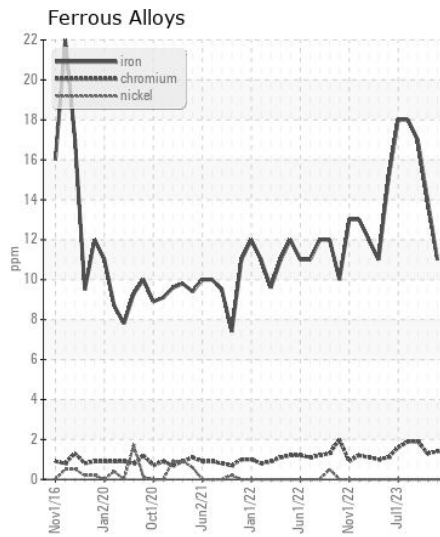
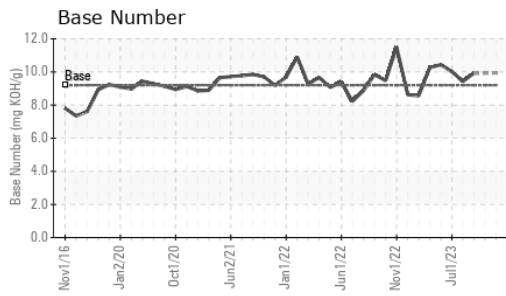
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	4	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	2
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	>3	<b>0.4</b>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.1</b>	7.9	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.9</b>	15.9	16.3
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	>75	<b>2</b>	<1	<1
Boron	ppm	ASTM D5185m		<b>39</b>	38	38
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>43</b>	45	47
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>12</b>	12	1
Calcium	ppm	ASTM D5185m		<b>3368</b>	3355	3702
Phosphorus	ppm	ASTM D5185m		<b>3</b>	4	0
Zinc	ppm	ASTM D5185m	10	<b>0</b>	2	0
Sulfur	ppm	ASTM D5185m		<b>2236</b>	2194	2631
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>8.4</b>	8.1	8.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>9.94</b>	---	9.92
Visc @ 100°C	cSt	ASTM D445	15.5	<b>15.0</b>	14.8	15.1



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW06055522 **Received** : 09 Jan 2024  
**Lab Number** : 06055522 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10821471 **Diagnostician** : Don Baldrige  
**Test Package** : MAR 2

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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