



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

Machine Id  
**MRC**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 400 XLE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample. Please specify the component make and model with your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW05843066</b>	MW05823777	MW05765707
Sample Date		Client Info		<b>09 May 2023</b>	18 Apr 2023	12 Feb 2023
Machine Age	hrs	Client Info		<b>6845</b>	6284	5677
Oil Age	hrs	Client Info		<b>561</b>	607	2594
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>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>4</b>	25	21
Chromium	ppm	ASTM D5185m	>8	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	2	2
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>5</b>	0	2
Lead	ppm	ASTM D5185m	>18	<b>10</b>	▲ 75	▲ 57
Copper	ppm	ASTM D5185m	>80	<b>6</b>	● 56	● 65
Tin	ppm	ASTM D5185m	>14	<b>0</b>	2	2
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**

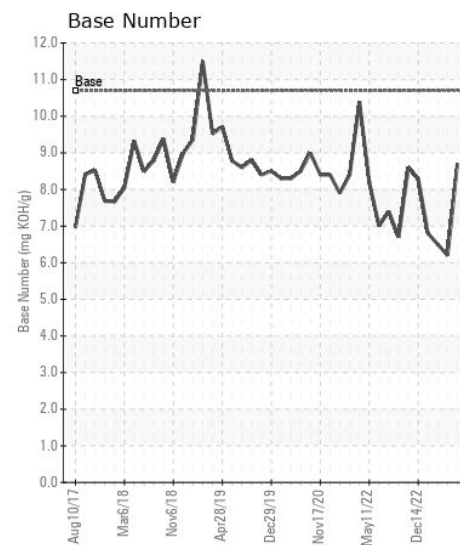
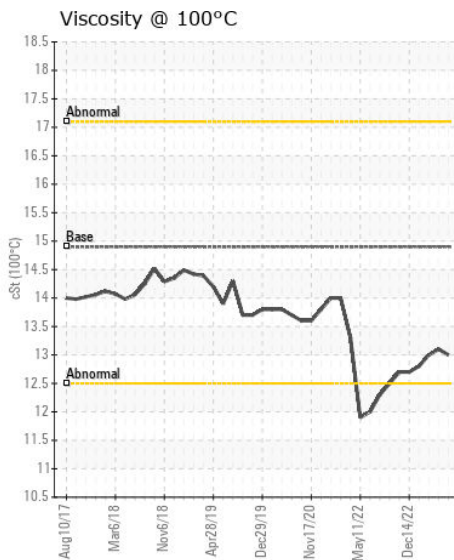
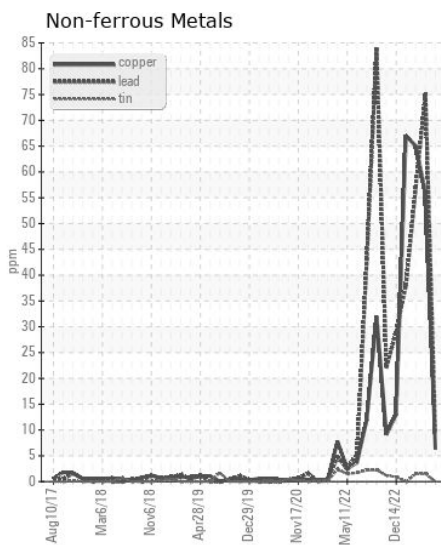
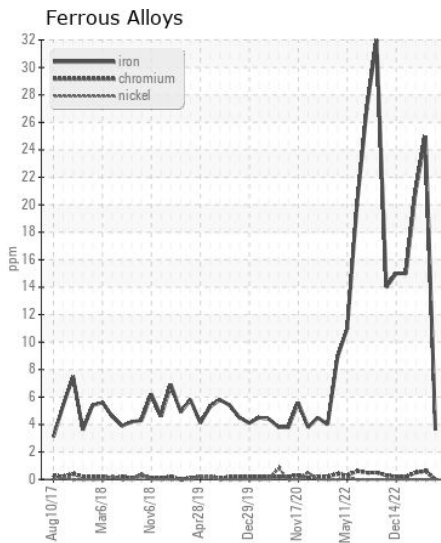
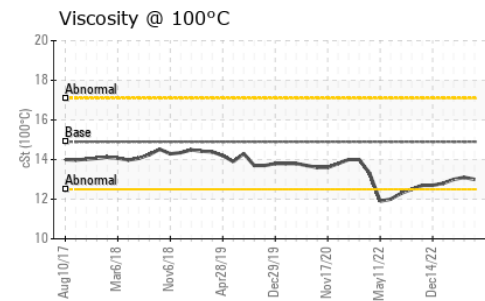
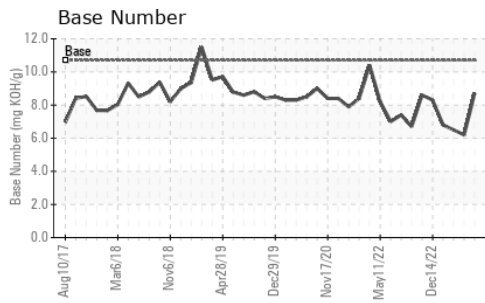
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	5	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	0
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>	0.9	0.8
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	10.2	9.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.7</b>	25.8	25.3
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>&lt;1</b>	1	2
Boron	ppm	ASTM D5185m		<b>267</b>	143	169
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>104</b>	104	101
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>577</b>	571	565
Calcium	ppm	ASTM D5185m		<b>1703</b>	1575	1579
Phosphorus	ppm	ASTM D5185m	760	<b>773</b>	688	684
Zinc	ppm	ASTM D5185m	830	<b>938</b>	871	832
Sulfur	ppm	ASTM D5185m	2770	<b>2930</b>	2574	3017
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.3</b>	21.7	20.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	<b>8.7</b>	6.2	6.5
Visc @ 100°C	cSt	ASTM D445	14.9	<b>13.0</b>	13.1	13.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW05843066  
**Lab Number** : 05843066  
**Unique Number** : 10467173  
**Test Package** : MAR 2  
**Received** : 10 May 2023  
**Tested** : 12 May 2023  
**Diagnosed** : 12 May 2023 - Wes Davis

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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)