



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

Machine Id  
**EMD KELLY LEE**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (285 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0066975</b>	MW0066967	MW0057771
Sample Date		Client Info		<b>09 May 2024</b>	08 May 2024	23 Mar 2024
Machine Age	hrs	Client Info		<b>17612</b>	17140	16647
Oil Age	hrs	Client Info		<b>500</b>	0	2290
Filter Age	hrs	Client Info		<b>500</b>	0	918
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>10</b>	8	10
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	<1	0
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>3</b>	2	1
Lead	ppm	ASTM D5185m	>18	<b>2</b>	1	<1
Copper	ppm	ASTM D5185m	>80	<b>9</b>	8	9
Tin	ppm	ASTM D5185m	>14	<b>2</b>	2	2
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

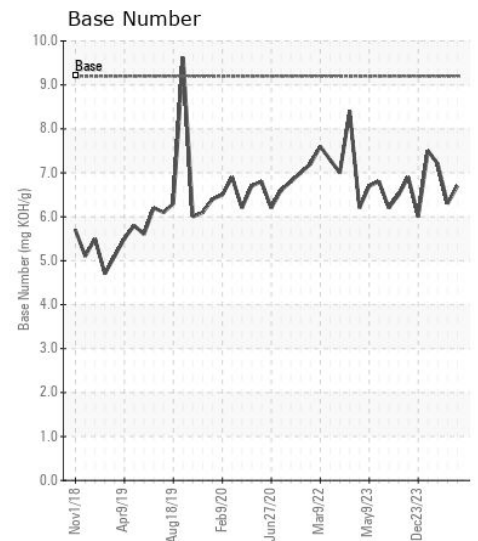
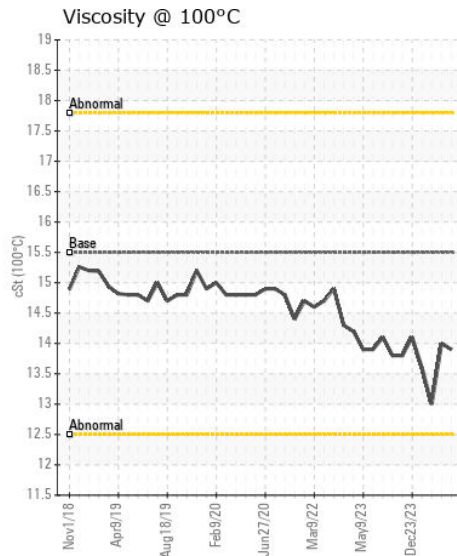
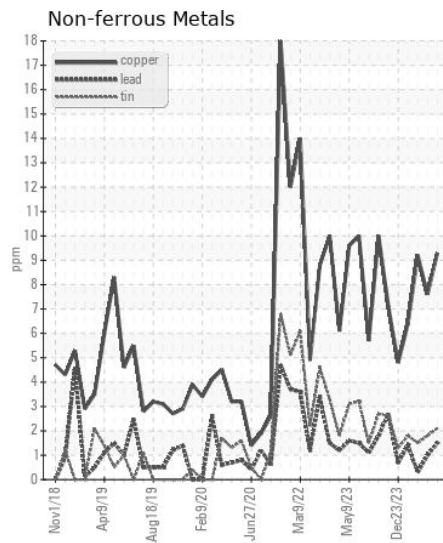
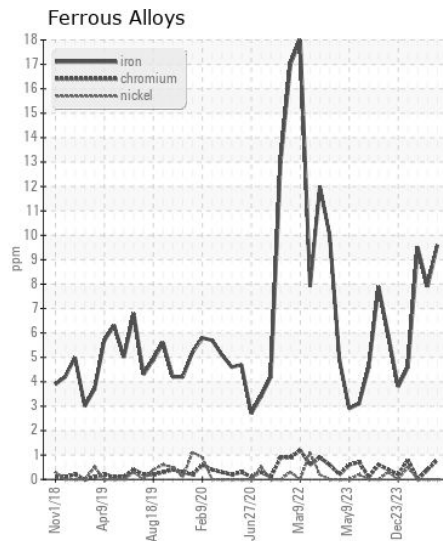
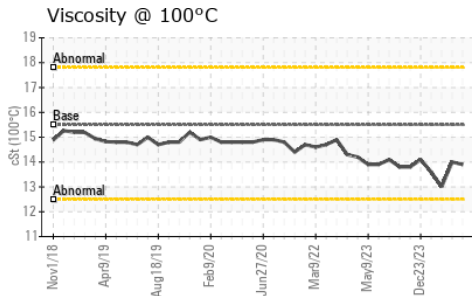
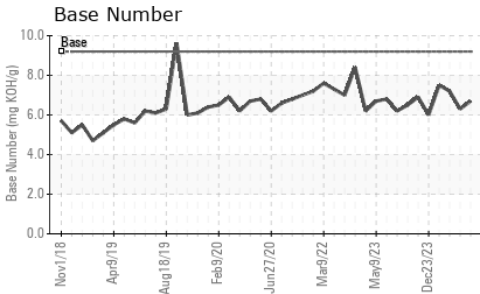
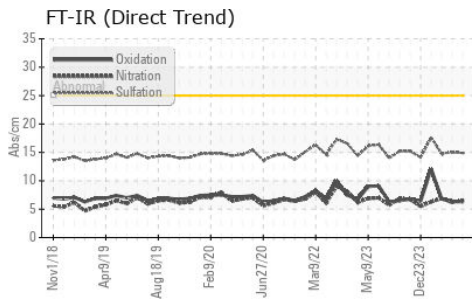
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	3	2
Potassium	ppm	ASTM D5185m	>20	<b>5</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	>3	<b>1.1</b>	0.9	1.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.5</b>	6.2	6.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>14.9</b>	15.0	14.8
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	1
Boron	ppm	ASTM D5185m		<b>46</b>	50	41
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>45</b>	45	43
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>58</b>	22	24
Calcium	ppm	ASTM D5185m		<b>3224</b>	3191	3316
Phosphorus	ppm	ASTM D5185m		<b>58</b>	22	16
Zinc	ppm	ASTM D5185m	10	<b>52</b>	16	12
Sulfur	ppm	ASTM D5185m		<b>2467</b>	2192	2431
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>6.3</b>	6.4	6.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>6.7</b>	6.3	7.2
Visc @ 100°C	cSt	ASTM D445	15.5	<b>13.9</b>	14.0	13.0



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0066975  
**Lab Number** : 06188560  
**Unique Number** : 11045312  
**Test Package** : MAR 2

**Received** : 22 May 2024  
**Tested** : 24 May 2024  
**Diagnosed** : 28 May 2024 - Don Baldrige

**MAGNOLIA MARINE TRANSPORT**  
 697 HAINING ROAD  
 VICKSBURG, MS  
 US 39183  
 Contact: MMT MAINTENANCE PLANNERS  
 mmtmaintenanceplanners@ergon.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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