



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

Machine Id  
**MISS ELLIE**  
Component  
**Starboard Genset**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (4 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0067476</b>	MW0062075	MW0062069
Sample Date		Client Info		<b>31 May 2024</b>	26 May 2024	18 Apr 2024
Machine Age	hrs	Client Info		<b>41241</b>	31942	31486
Oil Age	hrs	Client Info		<b>457</b>	456	493
Filter Age	hrs	Client Info		<b>457</b>	456	493
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>5</b>	6	4
Chromium	ppm	ASTM D5185m	>4	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>13</b>	14	11
Silver	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	2	<1
Lead	ppm	ASTM D5185m	>17	<b>0</b>	2	<1
Copper	ppm	ASTM D5185m	>70	<b>17</b>	<1	0
Tin	ppm	ASTM D5185m	>15	<b>0</b>	0	0
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.

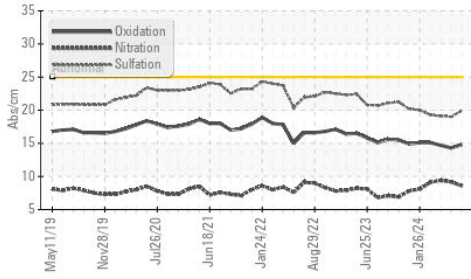
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	3
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	3	<1
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.1</b>	0.3	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	9.2	9.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.9</b>	19.0	19.1
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**

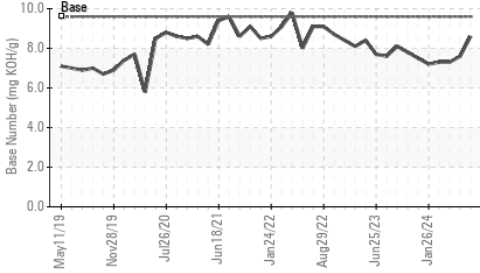
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>1</b>	1	1
Boron	ppm	ASTM D5185m		<b>135</b>	107	99
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>51</b>	49	47
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>740</b>	753	672
Calcium	ppm	ASTM D5185m		<b>1582</b>	1598	1510
Phosphorus	ppm	ASTM D5185m	1200	<b>831</b>	850	706
Zinc	ppm	ASTM D5185m	1300	<b>898</b>	904	804
Sulfur	ppm	ASTM D5185m	3200	<b>3140</b>	3260	3316
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>14.8</b>	14.3	14.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>8.6</b>	7.6	7.3
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.8</b>	13.3	13.3

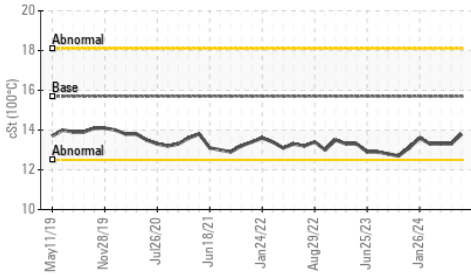
**FT-IR (Direct Trend)**



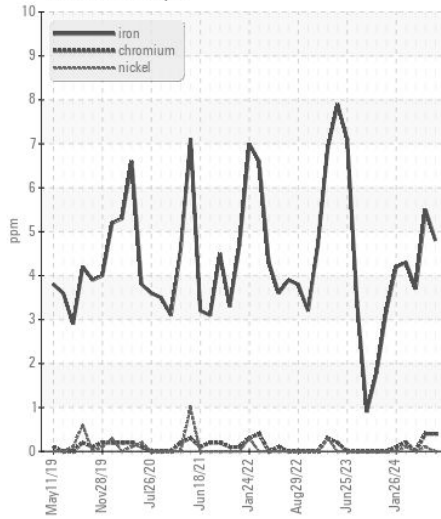
**Base Number**



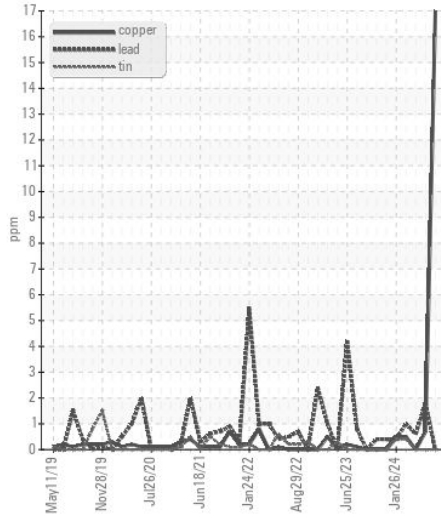
**Viscosity @ 100°C**



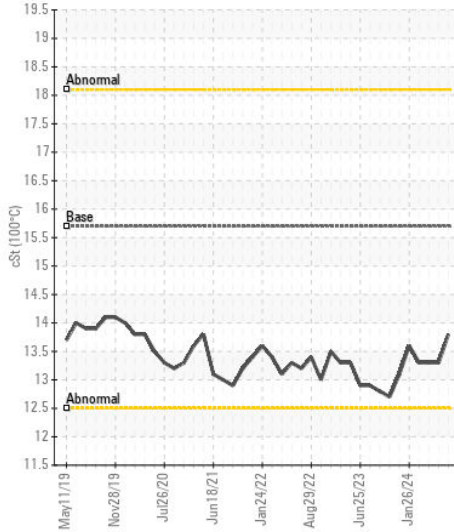
**Ferrous Alloys**



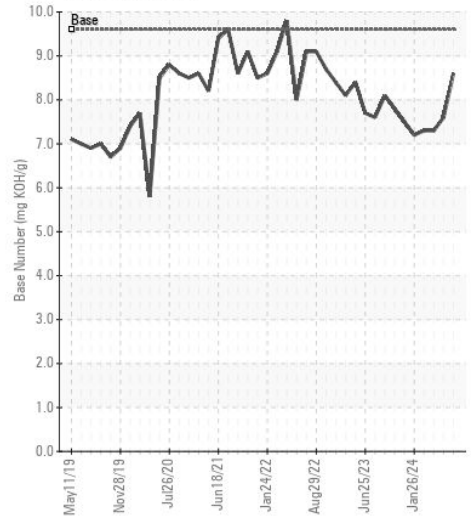
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0067476  
**Lab Number** : 06224202  
**Unique Number** : 11102399  
**Test Package** : MAR 2

**Received** : 28 Jun 2024  
**Tested** : 01 Jul 2024  
**Diagnosed** : 01 Jul 2024 - Wes Davis

**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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