



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

Machine Id  
**LINDA TAYLOR**  
Component  
**Starboard Genset**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (6 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0058189</b>	MW0058188	MW0049109
Sample Date		Client Info		<b>05 Apr 2024</b>	02 Mar 2024	13 Dec 2023
Machine Age	hrs	Client Info		<b>23511</b>	23034	22115
Oil Age	hrs	Client Info		<b>466</b>	468	440
Filter Age	hrs	Client Info		<b>466</b>	468	440
Oil Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Filter Changed		Client Info		<b>N/A</b>	Not Changd	N/A
Sample Status				<b>NORMAL</b>	ABNORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>50	<b>4</b>	11	4
Chromium	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>12	<b>2</b>	2	3
Lead	ppm	ASTM D5185m	>17	<b>2</b>	▲ 39	0
Copper	ppm	ASTM D5185m	>70	<b>0</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.

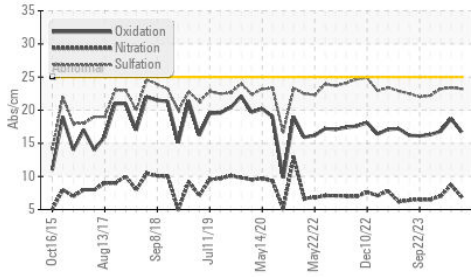
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Fuel		WC Method	>4.0	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844		<b>0.3</b>	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	8.7	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>23.2</b>	23.4	23.2
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**

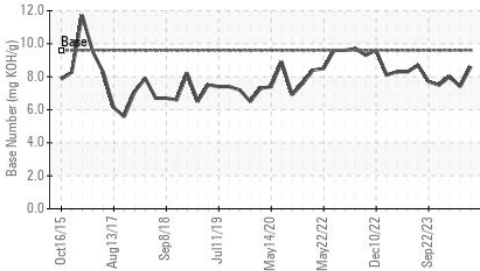
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>2</b>	3	0
Boron	ppm	ASTM D5185m		<b>292</b>	253	297
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>119</b>	119	124
Manganese	ppm	ASTM D5185m		<b>0</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>610</b>	603	682
Calcium	ppm	ASTM D5185m		<b>1493</b>	1485	1458
Phosphorus	ppm	ASTM D5185m	1200	<b>656</b>	636	701
Zinc	ppm	ASTM D5185m	1300	<b>735</b>	717	840
Sulfur	ppm	ASTM D5185m	3200	<b>2486</b>	2397	2398
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.7</b>	18.7	16.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>8.6</b>	7.4	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.4</b>	13.5	13.6

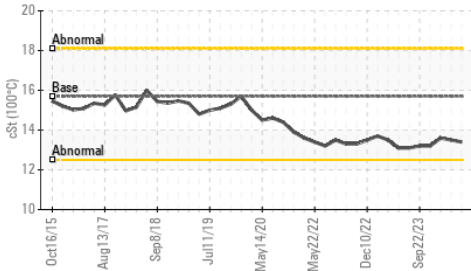
**FT-IR (Direct Trend)**



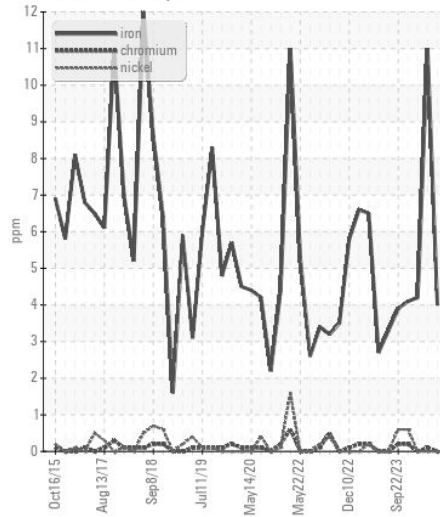
**Base Number**



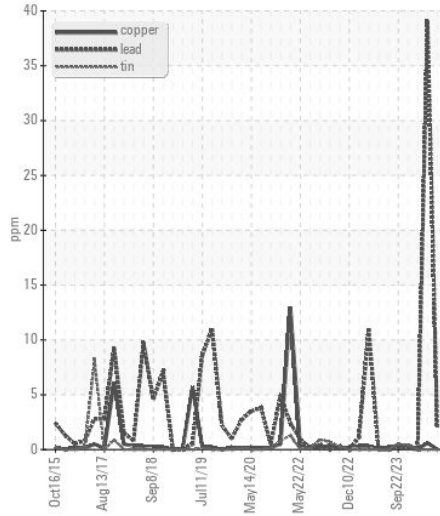
**Viscosity @ 100°C**



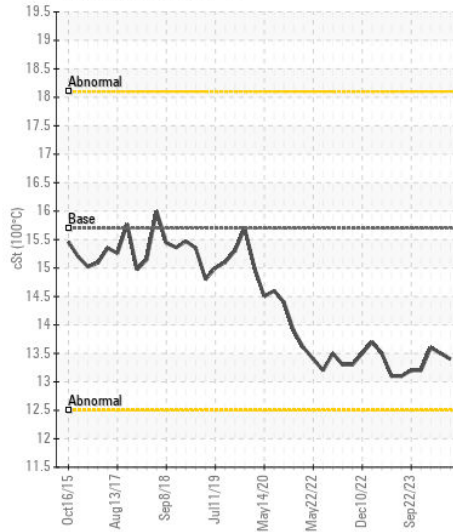
**Ferrous Alloys**



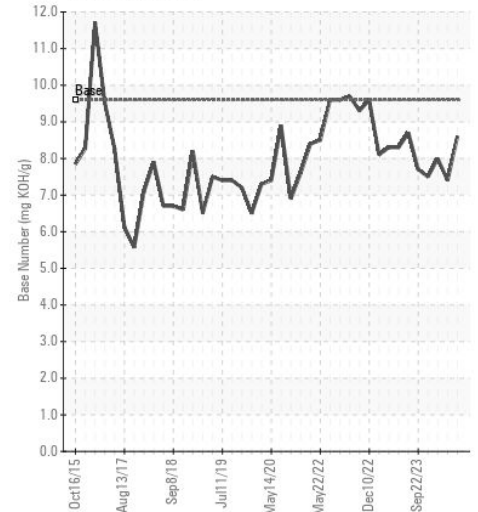
**Non-ferrous Metals**



**Viscosity @ 100°C**



**Base Number**



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0058189  
**Lab Number** : 06147995  
**Unique Number** : 10978073  
**Test Package** : MAR 2

**Received** : 12 Apr 2024  
**Tested** : 15 Apr 2024  
**Diagnosed** : 16 Apr 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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