



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

Machine Id  
**GENE NEAL**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (250 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0057999</b>	MW0057813	MW0057809
Sample Date		Client Info		<b>06 Nov 2023</b>	06 Oct 2023	22 Aug 2023
Machine Age	hrs	Client Info		<b>26359</b>	25851	24953
Oil Age	hrs	Client Info		<b>637</b>	129	2122
Filter Age	hrs	Client Info		<b>637</b>	129	669
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	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>7</b>	8	10
Chromium	ppm	ASTM D5185m	>8	<b>&lt;1</b>	<1	1
Nickel	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>3	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	4	2
Lead	ppm	ASTM D5185m	>18	<b>2</b>	2	4
Copper	ppm	ASTM D5185m	>80	<b>5</b>	4	6
Tin	ppm	ASTM D5185m	>14	<b>2</b>	2	3
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

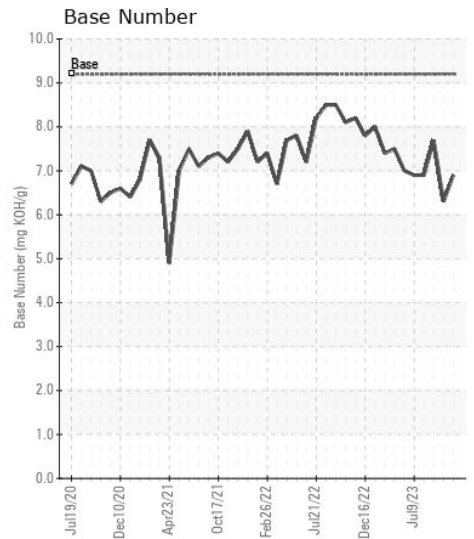
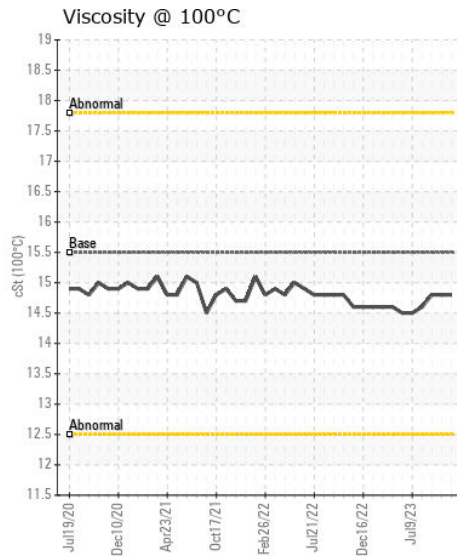
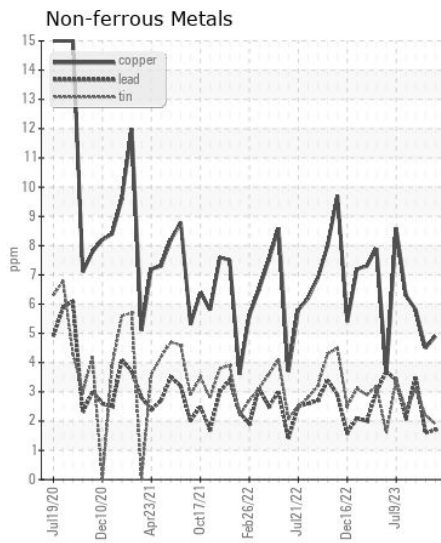
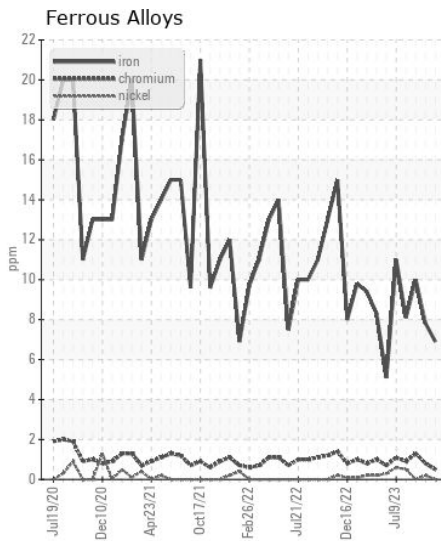
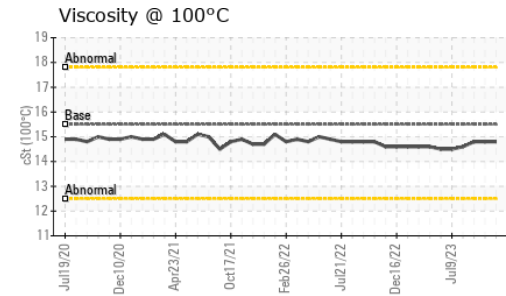
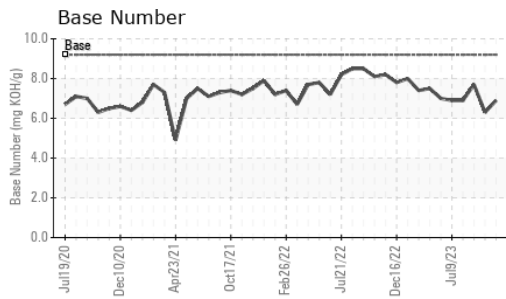
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>3</b>	4	3
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	3	3
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>	0.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.9</b>	6.0	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>15.1</b>	14.1	16.2
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	>75	<b>6</b>	9	12
Boron	ppm	ASTM D5185m		<b>39</b>	56	42
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>44</b>	56	42
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
Magnesium	ppm	ASTM D5185m		<b>14</b>	19	30
Calcium	ppm	ASTM D5185m		<b>3395</b>	4084	3215
Phosphorus	ppm	ASTM D5185m		<b>12</b>	21	21
Zinc	ppm	ASTM D5185m	10	<b>10</b>	15	30
Sulfur	ppm	ASTM D5185m		<b>2227</b>	3499	2461
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>7.5</b>	6.8	8.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>6.9</b>	6.3	7.7
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.8</b>	14.8	14.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0057999 **Recieved** : 16 Jan 2024  
**Lab Number** : 06061652 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10833034 **Diagnostician** : Wes Davis  
**Test Package** : MAR 2

**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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