



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



Machine Id  
**CAT SYNERGY**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LE (25 GAL)**

**RECOMMENDATION**

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0060560</b>	MW0060511	MW0014575
Sample Date		Client Info		<b>19 Jan 2024</b>	07 Jul 2023	03 Nov 2022
Machine Age	hrs	Client Info		<b>67609</b>	64401	60523
Oil Age	hrs	Client Info		<b>0</b>	0	0
Filter Age	hrs	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	NORMAL	NORMAL

**WEAR**

Moderate concentration of visible metal present. All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>9</b>	7	21
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>40	<b>1</b>	<1	8
Copper	ppm	ASTM D5185m	>300	<b>4</b>	2	18
Tin	ppm	ASTM D5185m	>10	<b>&lt;1</b>	<1	2
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>▲ MODER</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

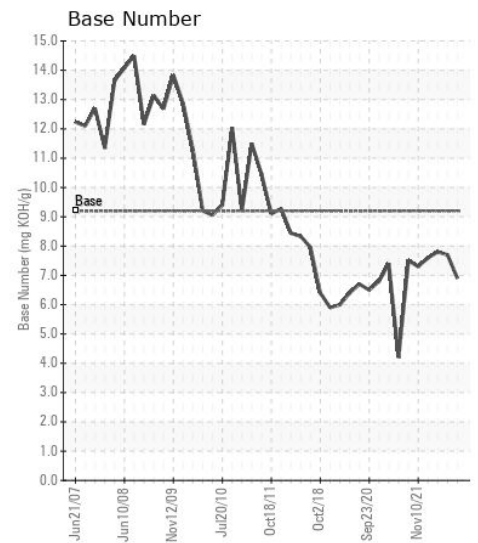
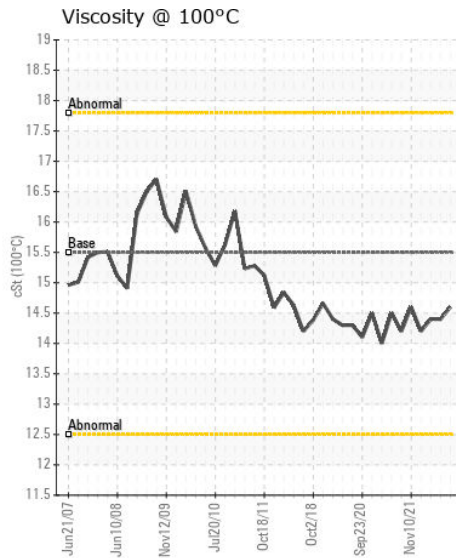
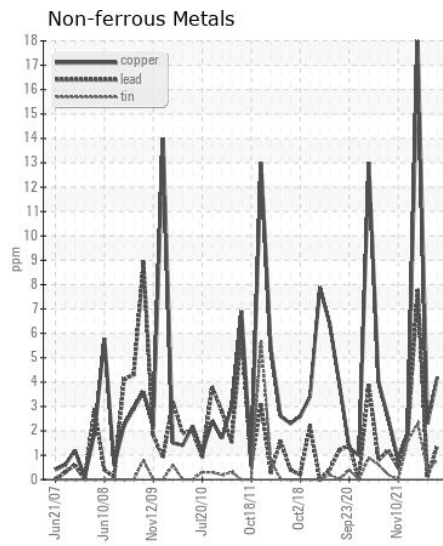
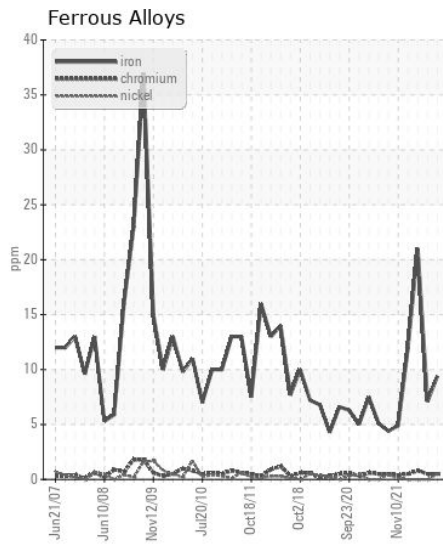
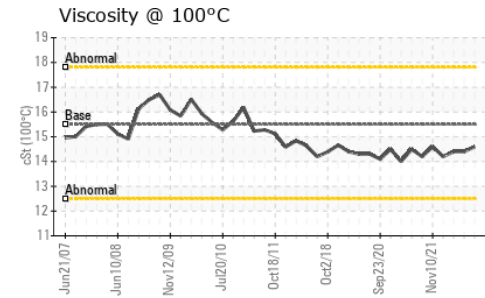
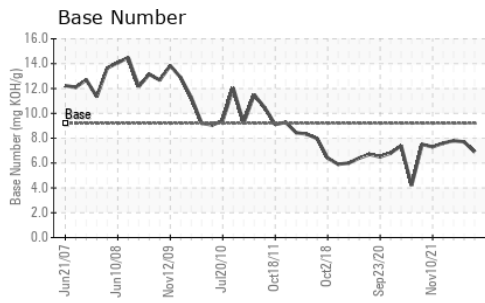
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>2</b>	2	2
Potassium	ppm	ASTM D5185m	>20	<b>2</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>0.2</b>	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.5</b>	9.3	10.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>16.5</b>	16.3	17.3
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		<b>0</b>	1	<1
Boron	ppm	ASTM D5185m		<b>41</b>	48	42
Barium	ppm	ASTM D5185m		<b>13</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>41</b>	44	43
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	1
Magnesium	ppm	ASTM D5185m		<b>18</b>	21	20
Calcium	ppm	ASTM D5185m		<b>3248</b>	3758	3389
Phosphorus	ppm	ASTM D5185m		<b>38</b>	14	11
Zinc	ppm	ASTM D5185m	10	<b>3</b>	12	12
Sulfur	ppm	ASTM D5185m		<b>2825</b>	3119	2500
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>11.3</b>	10.1	11.1
Base Number (BN)	mg KOH/g	ASTM D2896	9.2	<b>6.9</b>	7.7	7.8
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.6</b>	14.4	14.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513

**Sample No.** : MW0060560

**Lab Number** : 06085733

**Unique Number** : 10873178

**Test Package** : MAR 2

**Received** : 12 Feb 2024

**Tested** : 12 Feb 2024

**Diagnosed** : 13 Feb 2024 - Jonathan Hester

**ERGON MARINE**

100 LEE STREET

VICKSBURG, MS

US 39180

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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)