



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

Area  
**TODD BROWN**  
Machine Id  
**[TODD BROWN] 003 587214-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 400 MULTIGRADE 15W40 (55 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0042517</b>	MW0042984	MW0042981
Sample Date		Client Info		<b>01 Nov 2023</b>	01 May 2023	31 Mar 2023
Machine Age	hrs	Client Info		<b>47333</b>	44253	43691
Oil Age	hrs	Client Info		<b>1428</b>	2513	1953
Filter Age	hrs	Client Info		<b>1428</b>	92	1031
Oil Changed		Client Info		<b>Not Changd</b>	N/A	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	N/A	Not Changd
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

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

**CONTAMINATION**

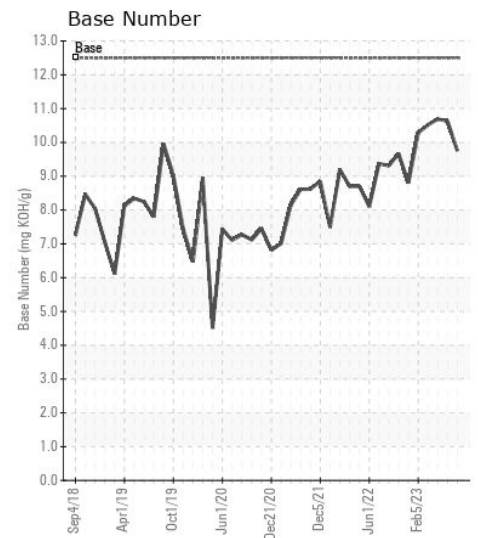
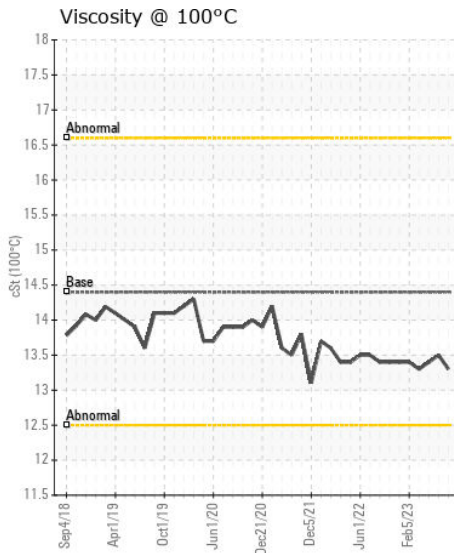
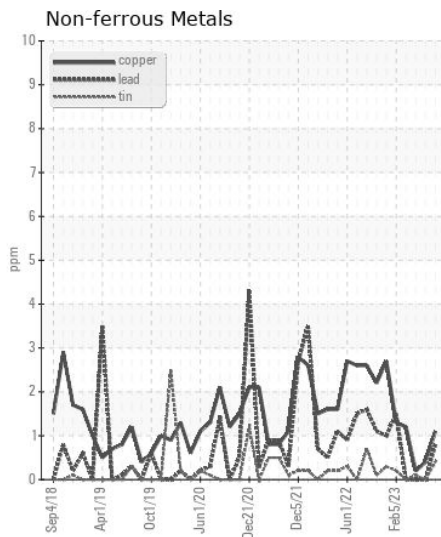
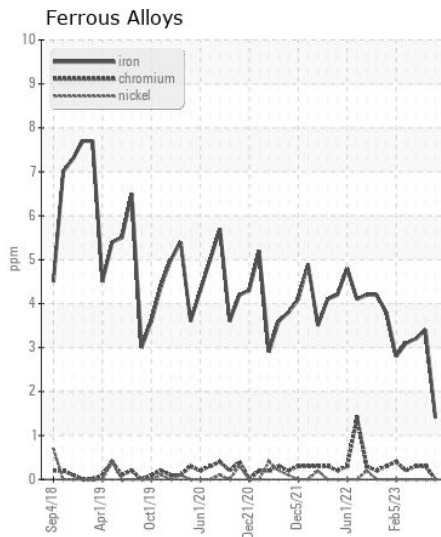
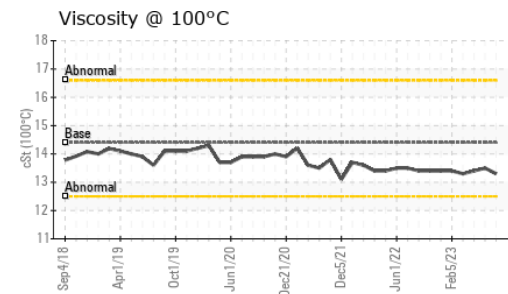
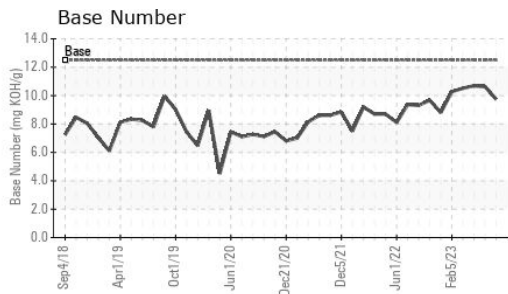
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>6</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<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>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>6.1</b>	6.4	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.9</b>	22.8	22.8
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>0</b>	<1	<1
Boron	ppm	ASTM D5185m	151	<b>324</b>	303	308
Barium	ppm	ASTM D5185m	0.4	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	250	<b>118</b>	111	112
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	0	<b>615</b>	625	631
Calcium	ppm	ASTM D5185m	2046	<b>1685</b>	1694	1681
Phosphorus	ppm	ASTM D5185m	1043	<b>682</b>	647	652
Zinc	ppm	ASTM D5185m	943	<b>763</b>	766	771
Sulfur	ppm	ASTM D5185m	5012	<b>2483</b>	2947	2930
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.0</b>	15.7	15.6
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	<b>9.75</b>	10.63	10.69
Visc @ 100°C	cSt	ASTM D445	14.4	<b>13.3</b>	13.5	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0042517 **Received** : 12 Jan 2024  
**Lab Number** : 06060419 **Diagnosed** : 16 Jan 2024  
**Unique Number** : 10831801 **Diagnostician** : Wes Davis  
**Test Package** : MAR 2

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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)