



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

Area  
**DENNIS BOTTORFF**  
Machine Id  
**[DENNIS BOTTORFF] 003 569953-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064505</b>	MW0027147	MW0041477
Sample Date		Client Info		<b>01 Jan 2024</b>	01 Dec 2023	01 Nov 2023
Machine Age	hrs	Client Info		<b>40744</b>	40000	39281
Oil Age	hrs	Client Info		<b>40744</b>	40000	39281
Filter Age	hrs	Client Info		<b>0</b>	444	39281
Oil Changed		Client Info		<b>Not Changd</b>	Changed	Not Changd
Filter Changed		Client Info		<b>Not Changd</b>	Changed	N/A
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>33</b>	31	27
Chromium	ppm	ASTM D5185m	>8	<b>2</b>	1	2
Nickel	ppm	ASTM D5185m	>2	<b>1</b>	0	<1
Titanium	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>15	<b>2</b>	2	2
Lead	ppm	ASTM D5185m	>18	<b>5</b>	4	5
Copper	ppm	ASTM D5185m	>80	<b>27</b>	22	25
Tin	ppm	ASTM D5185m	>14	<b>5</b>	4	4
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**

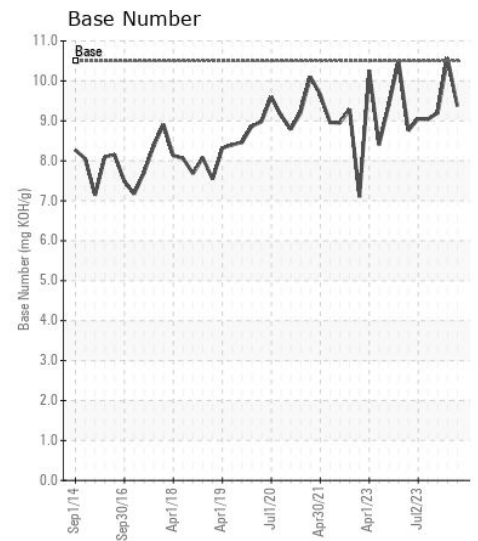
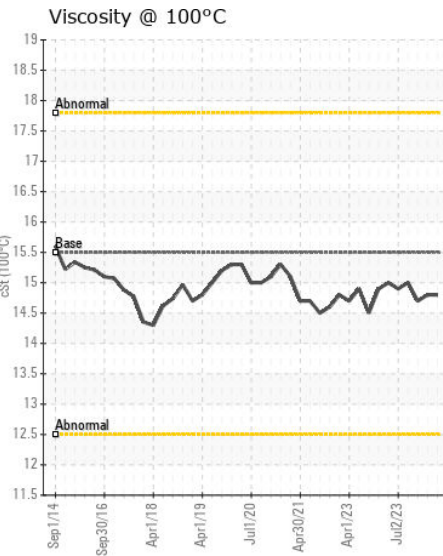
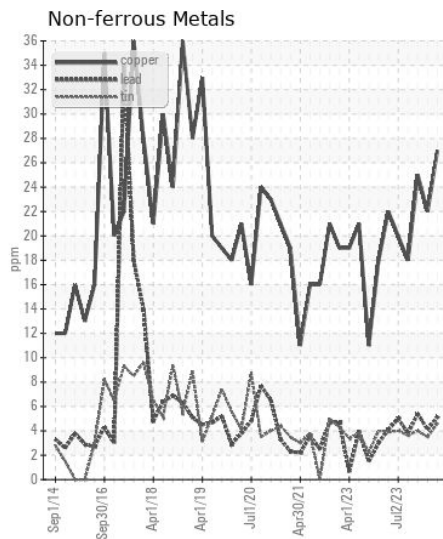
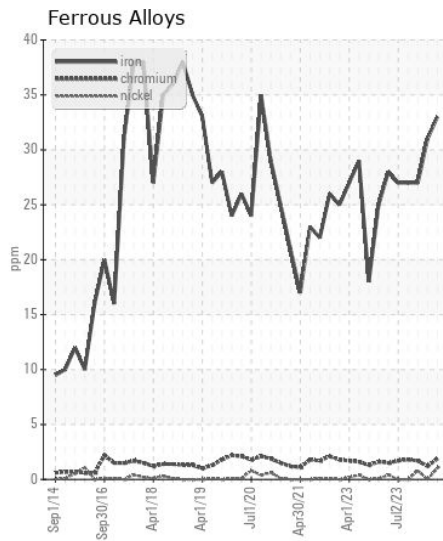
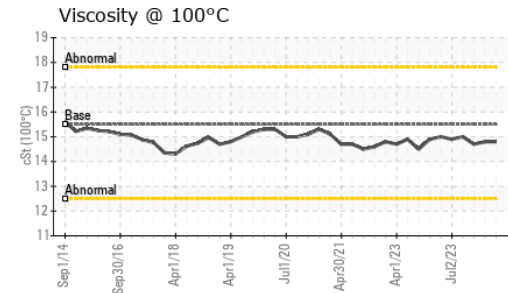
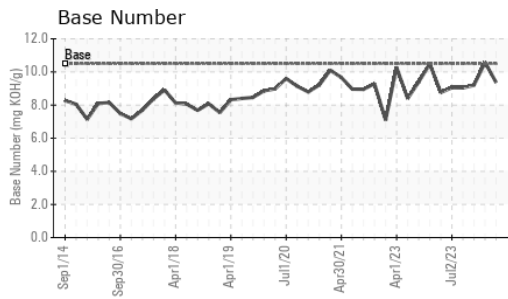
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>6</b>	6	5
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	1	2
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	>3	<b>1.4</b>	1.5	1.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.3</b>	9.5	9.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.9</b>	19.2	18.9
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>1</b>	4	4
Boron	ppm	ASTM D5185m		<b>58</b>	59	65
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>56</b>	57	59
Manganese	ppm	ASTM D5185m		<b>1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>74</b>	109	101
Calcium	ppm	ASTM D5185m		<b>3446</b>	3259	3260
Phosphorus	ppm	ASTM D5185m		<b>86</b>	92	104
Zinc	ppm	ASTM D5185m		<b>74</b>	109	121
Sulfur	ppm	ASTM D5185m		<b>2411</b>	2418	2547
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.7</b>	10.0	10.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>9.37</b>	10.57	9.20
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.8</b>	14.8	14.7



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0064505 **Received** : 08 Jan 2024  
**Lab Number** : 06055040 **Diagnosed** : 10 Jan 2024  
**Unique Number** : 10820989 **Diagnostician** : Sean Felton  
**Test Package** : MAR 2

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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