



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

Area  
**Y.S. CHI**  
Machine Id  
**[Y.S. CHI] 003 503877-3**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 710 LS (240 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0064552</b>	MW0064550	MW0064547
Sample Date		Client Info		<b>01 Feb 2024</b>	07 Jan 2024	01 Jan 2024
Machine Age	hrs	Client Info		<b>30916</b>	30347	30203
Oil Age	hrs	Client Info		<b>1175</b>	606	462
Filter Age	hrs	Client Info		<b>336</b>	310	166
Oil Changed		Client Info		<b>Changed</b>	N/A	Changed
Filter Changed		Client Info		<b>Changed</b>	N/A	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

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

**CONTAMINATION**

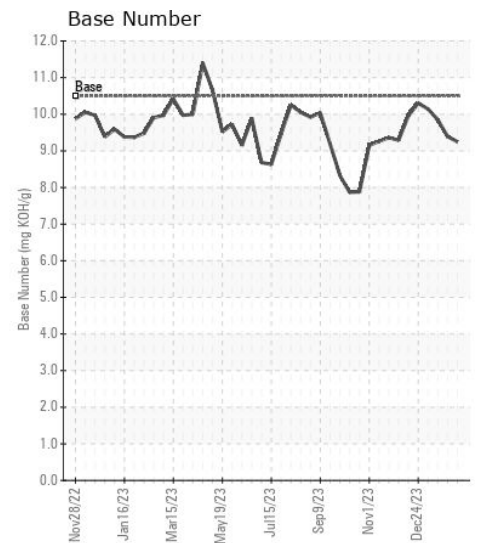
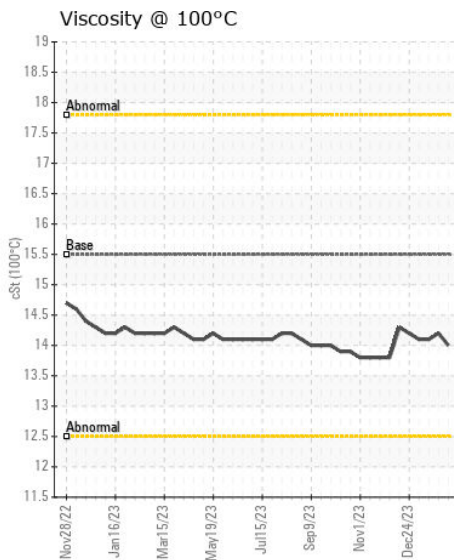
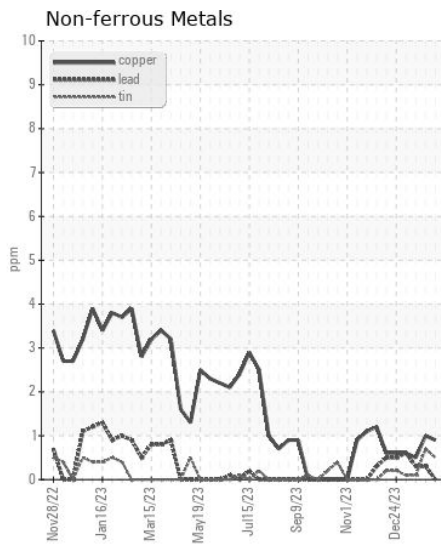
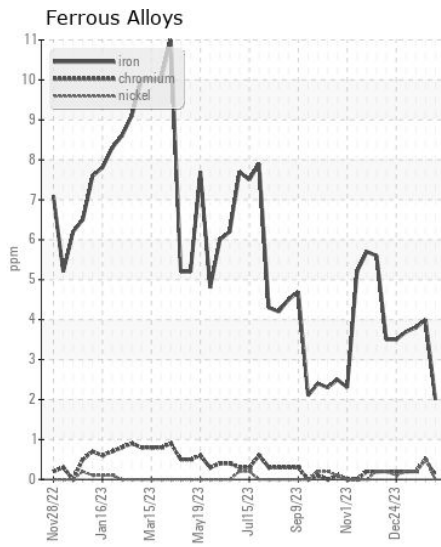
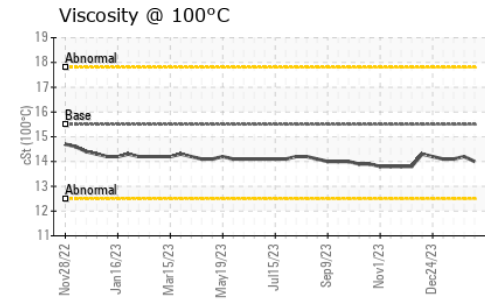
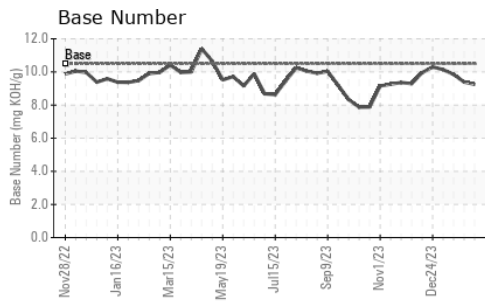
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	<b>4</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>1</b>	3	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		<b>0.3</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.2</b>	6.5	6.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>14.1</b>	13.9	13.7
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>&lt;1</b>	0	0
Boron	ppm	ASTM D5185m		<b>38</b>	42	48
Barium	ppm	ASTM D5185m		<b>0</b>	5	2
Molybdenum	ppm	ASTM D5185m		<b>42</b>	44	46
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>13</b>	9	10
Calcium	ppm	ASTM D5185m		<b>3140</b>	3026	3327
Phosphorus	ppm	ASTM D5185m		<b>3</b>	0	15
Zinc	ppm	ASTM D5185m		<b>0</b>	4	0
Sulfur	ppm	ASTM D5185m		<b>2068</b>	2215	2364
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>7.7</b>	7.1	6.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.5	<b>9.25</b>	9.39	9.85
Visc @ 100°C	cSt	ASTM D445	15.5	<b>14.0</b>	14.2	14.1



Certificate L2367

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

**Sample No.** : MW0064552

**Lab Number** : 06105441

**Unique Number** : 10903671

**Test Package** : MAR 2

**Received** : 29 Feb 2024

**Tested** : 01 Mar 2024

**Diagnosed** : 01 Mar 2024 - Wes Davis

**INGRAM BARGE**

900 S 3RD ST

PADUCAH, KY

US 42003

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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)