



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

Machine Id  
**LESTER CRUSE**  
Component  
**Starboard Main Engine**  
Fluid  
**CHEVRON DELO 400 LE 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0062013</b>	MW0062006	MW0056567
Sample Date		Client Info		<b>14 Nov 2023</b>	22 Oct 2023	03 Oct 2023
Machine Age	hrs	Client Info		<b>49124</b>	48636	48224
Oil Age	hrs	Client Info		<b>500</b>	591	179
Filter Age	hrs	Client Info		<b>500</b>	591	179
Oil Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Filter Changed		Client Info		<b>Not Changd</b>	Not Changd	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	<b>5</b>	2	3
Chromium	ppm	ASTM D5185m	>10	<b>0</b>	0	0
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m		<b>13</b>	12	12
Silver	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	1	1
Lead	ppm	ASTM D5185m	>40	<b>&lt;1</b>	<1	0
Copper	ppm	ASTM D5185m	>300	<b>19</b>	15	15
Tin	ppm	ASTM D5185m	>10	<b>0</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

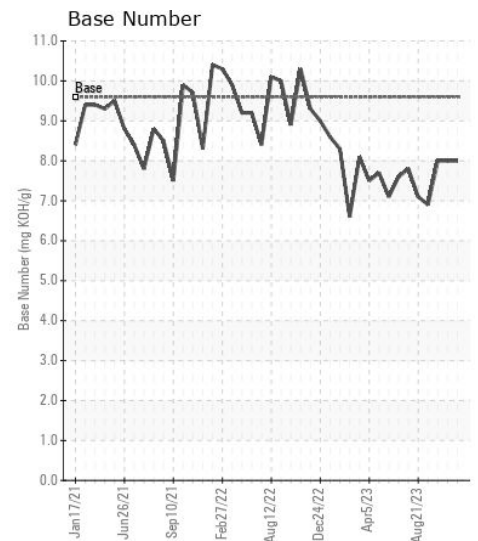
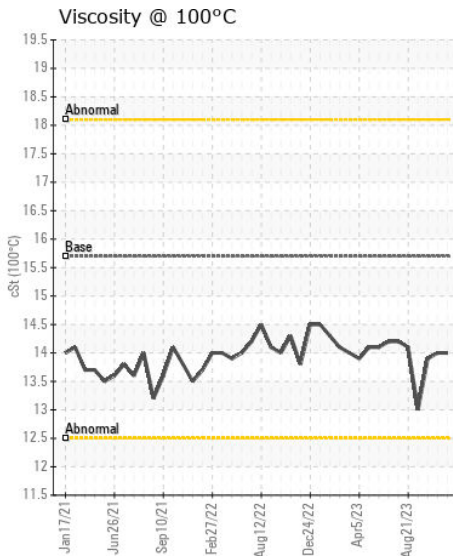
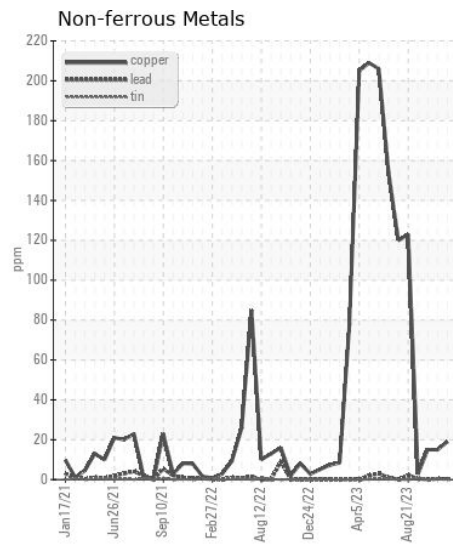
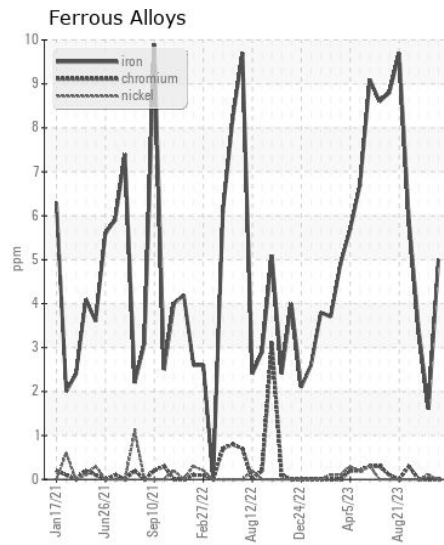
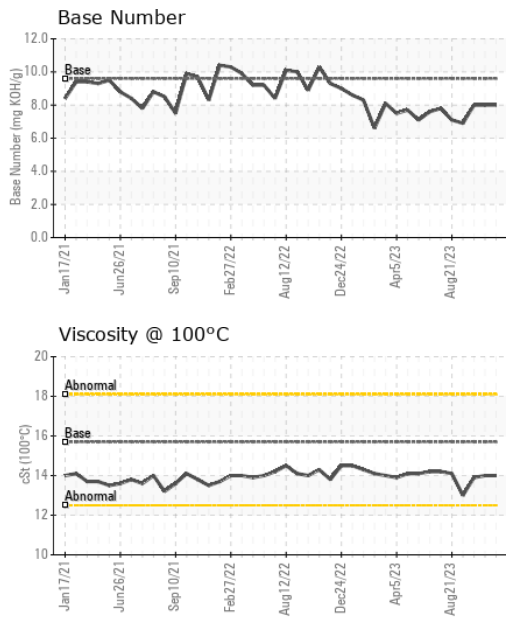
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	<b>4</b>	4	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	5
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>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>8.6</b>	7.5	7.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.0</b>	18.3	17.9
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		<b>2</b>	1	8
Boron	ppm	ASTM D5185m		<b>105</b>	111	115
Barium	ppm	ASTM D5185m		<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>40</b>	36	38
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	0
Magnesium	ppm	ASTM D5185m		<b>699</b>	685	664
Calcium	ppm	ASTM D5185m		<b>1648</b>	1516	1497
Phosphorus	ppm	ASTM D5185m	1200	<b>732</b>	694	691
Zinc	ppm	ASTM D5185m	1300	<b>845</b>	814	806
Sulfur	ppm	ASTM D5185m	3200	<b>3091</b>	2940	2918
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.9</b>	12.9	12.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	<b>8.0</b>	8.0	8.0
Visc @ 100°C	cSt	ASTM D445	15.7	<b>14.0</b>	14.0	13.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0062013 **Received** : 16 Jan 2024  
**Lab Number** : 06061663 **Diagnosed** : 17 Jan 2024  
**Unique Number** : 10833045 **Diagnostician** : Wes Davis  
**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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