



WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
MV WILLIAM B
Component
Starboard Main Engine
Fluid
CHEVRON 15W40 (18 GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0057063	MW0057085	MW0057058
Sample Date		Client Info		01 May 2024	01 Mar 2024	23 Sep 2023
Machine Age	hrs	Client Info		5080	4301	3465
Oil Age	hrs	Client Info		500	500	750
Filter Age	hrs	Client Info		500	500	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	ABNORMAL

WEAR

The copper level is abnormal. In the absence of other significant wear metals, suspect copper due to sources other than wear (i.e. cooling core). All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>120	18	5	9
Chromium	ppm	ASTM D5185m	>10	<1	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>20	4	3	3
Lead	ppm	ASTM D5185m	>40	<1	0	3
Copper	ppm	ASTM D5185m	>300	▲ 307	50	▲ 364
Tin	ppm	ASTM D5185m	>10	<1	0	1
Vanadium	ppm	ASTM D5185m		<1	0	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

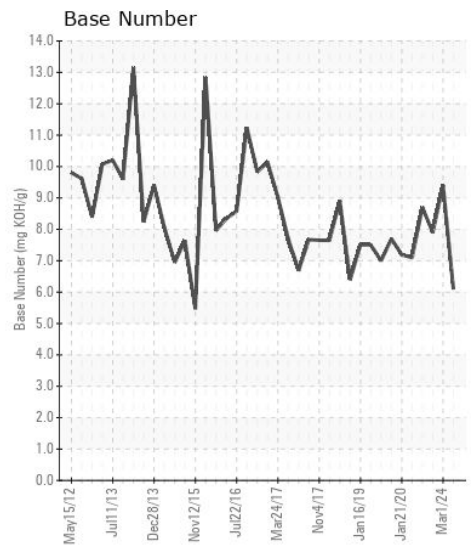
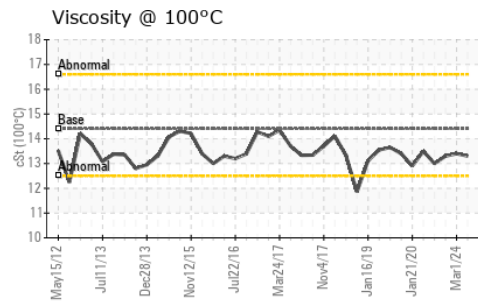
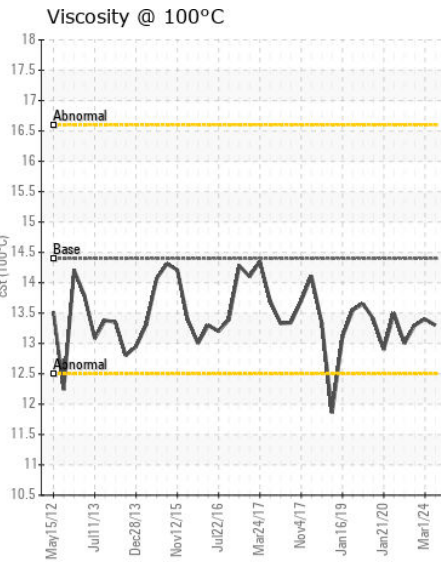
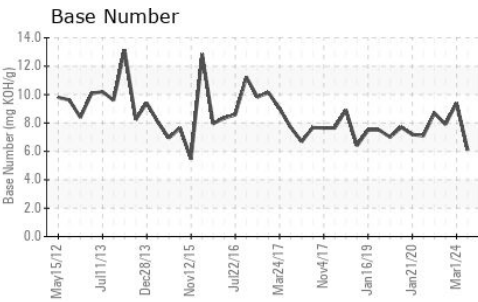
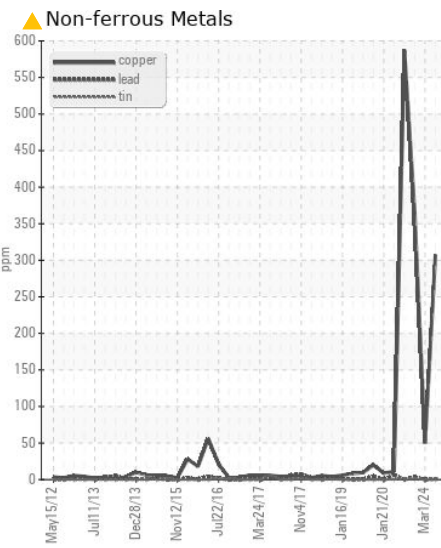
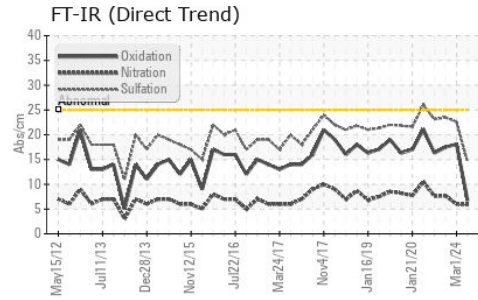
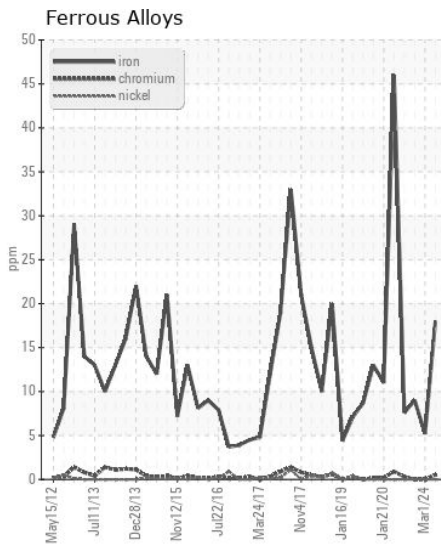
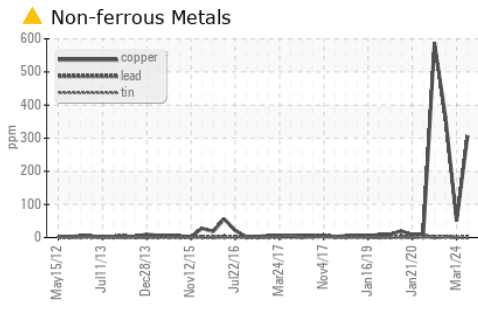
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	6	3	4
Potassium	ppm	ASTM D5185m	>20	2	0	2
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.5	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	5.9	6.0	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	14.5	22.6	23.5
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	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	>50	10	0	4
Boron	ppm	ASTM D5185m		356	255	299
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		131	86	127
Manganese	ppm	ASTM D5185m		<1	<1	0
Magnesium	ppm	ASTM D5185m		642	605	646
Calcium	ppm	ASTM D5185m		1521	1492	1535
Phosphorus	ppm	ASTM D5185m		764	721	722
Zinc	ppm	ASTM D5185m		876	848	856
Sulfur	ppm	ASTM D5185m		2679	2278	2492
Oxidation	Abs/.1mm	*ASTM D7414	>25	6.7	18.1	17.5
Base Number (BN)	mg KOH/g	ASTM D2896		6.1	9.4	7.9
Visc @ 100°C	cSt	ASTM D445	14.4	13.3	13.4	13.3



Certificate L2367

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

Sample No. : MW0057063

Lab Number : 06174881

Unique Number : 11020934

Test Package : MAR 2

Received : 09 May 2024

Tested : 10 May 2024

Diagnosed : 13 May 2024 - Angela Borella

C & B MARINE
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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)