



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
LOUISIANA BELLE
Machine Id
LBE
Component
Starboard Main Engine
Fluid
DIESEL ENGINE OIL SAE 15W40 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0065093	MW0065056	MW0065115
Sample Date		Client Info		08 May 2024	27 Mar 2024	13 Feb 2024
Machine Age	hrs	Client Info		6919	5923	4948
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Filter Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	8	9	9
Chromium	ppm	ASTM D5185m	>8	<1	<1	1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m	>3	<1	0	<1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>15	2	1	3
Lead	ppm	ASTM D5185m	>18	<1	<1	1
Copper	ppm	ASTM D5185m	>80	<1	0	<1
Tin	ppm	ASTM D5185m	>14	<1	<1	<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

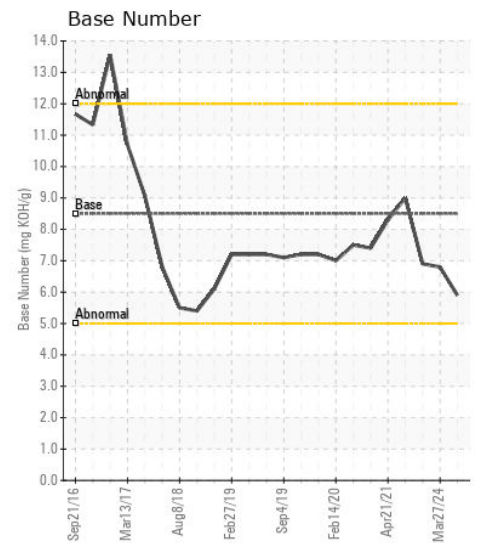
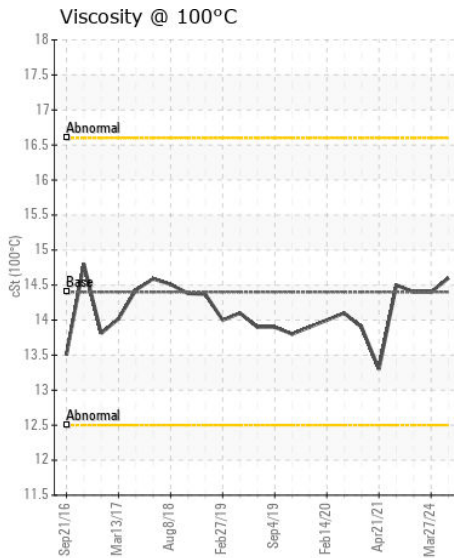
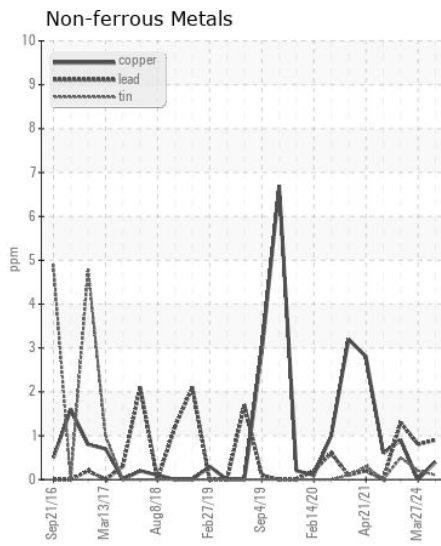
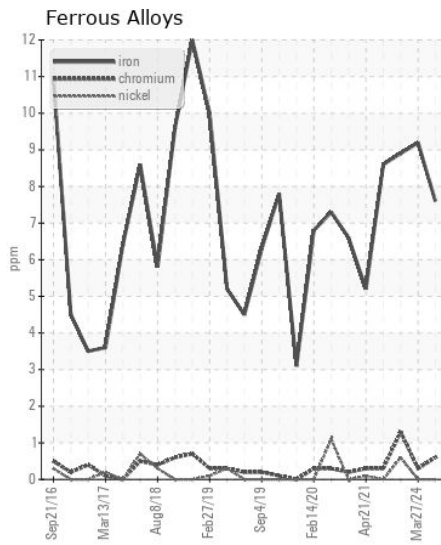
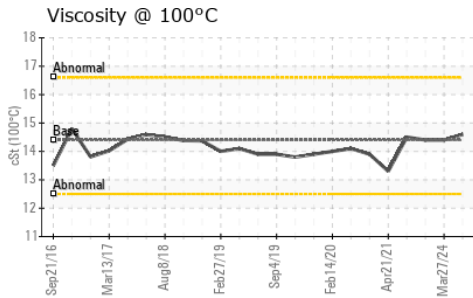
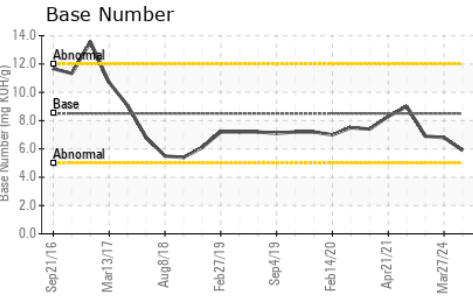
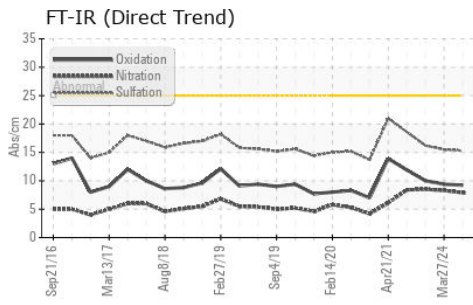
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	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		0.2	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	7.9	8.3	8.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	15.3	15.5	16.2
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	>158	<1	2	2
Boron	ppm	ASTM D5185m	250	45	45	29
Barium	ppm	ASTM D5185m	10	0	0	34
Molybdenum	ppm	ASTM D5185m	100	44	44	34
Manganese	ppm	ASTM D5185m		0	<1	<1
Magnesium	ppm	ASTM D5185m	450	8	10	8
Calcium	ppm	ASTM D5185m	3000	3419	3614	2753
Phosphorus	ppm	ASTM D5185m	1150	11	1	38
Zinc	ppm	ASTM D5185m	1350	0	0	30
Sulfur	ppm	ASTM D5185m	4250	3699	2786	2377
Oxidation	Abs/.1mm	*ASTM D7414	>25	9.2	9.4	10.0
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	5.9	6.8	6.9
Visc @ 100°C	cSt	ASTM D445	14.4	14.6	14.4	14.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0065093
Lab Number : 06185923
Unique Number : 11042675
Test Package : MAR 2

Received : 21 May 2024
Tested : 22 May 2024
Diagnosed : 23 May 2024 - Jonathan Hester

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 US 63111
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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)