



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

Machine Id  
**BELLEVUE**  
Component  
**Starboard Reduction Gear**  
Fluid  
**DIESEL ENGINE OIL SAE 15W40 (10 GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>MW0048332</b>	MW0048415	MW0045770
Sample Date		Client Info		<b>17 May 2024</b>	24 Sep 2023	31 Dec 2022
Machine Age	hrs	Client Info		<b>12152</b>	9044	6137
Oil Age	hrs	Client Info		<b>1500</b>	1500	0
Filter Age	hrs	Client Info		<b>1500</b>	1500	0
Oil Changed		Client Info		<b>N/A</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>150	<b>4</b>	3	2
Chromium	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Nickel	ppm	ASTM D5185m	>10	<b>&lt;1</b>	0	0
Titanium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Silver	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>25	<b>2</b>	7	2
Lead	ppm	ASTM D5185m	>100	<b>4</b>	4	1
Copper	ppm	ASTM D5185m	>50	<b>20</b>	▲ 394	▲ 558
Tin	ppm	ASTM D5185m	>10	<b>1</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

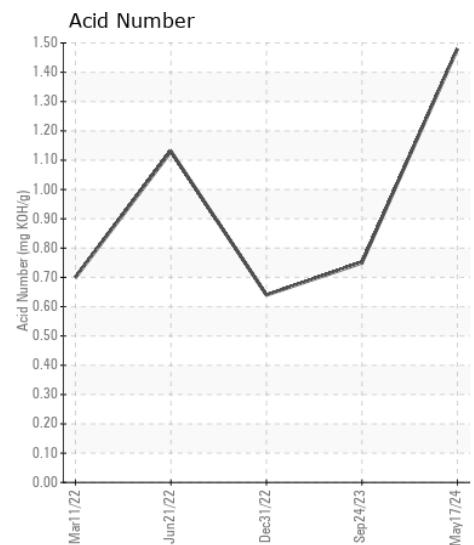
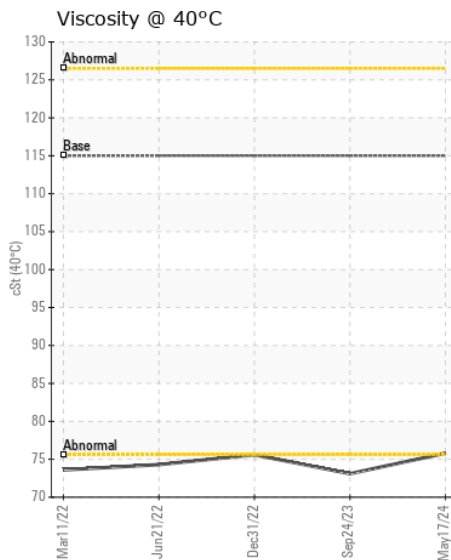
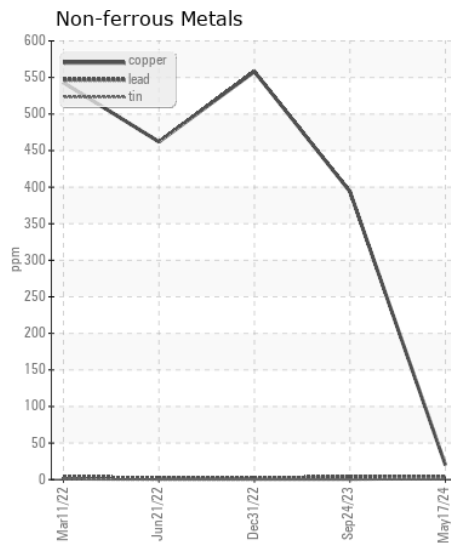
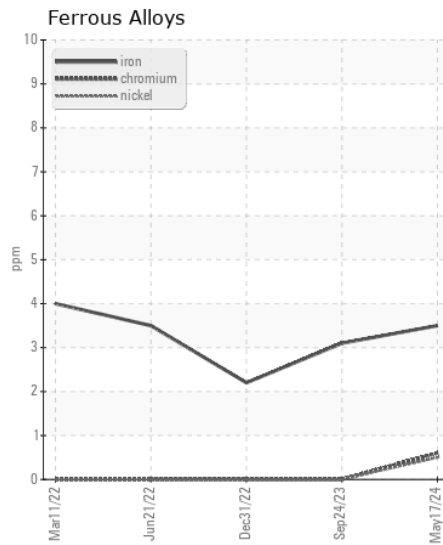
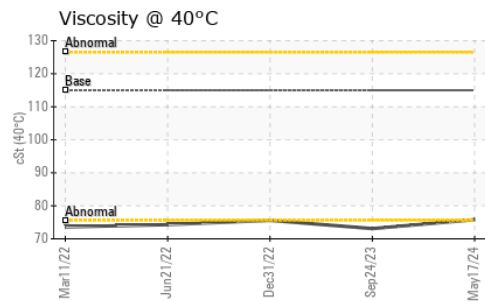
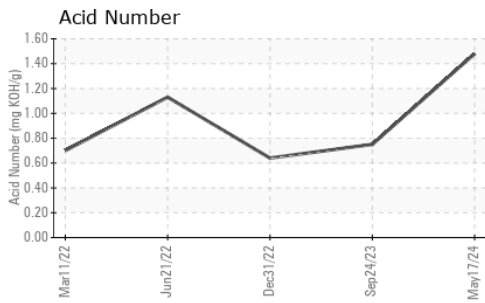
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>50	<b>4</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	0	0
Water		WC Method	>0.1	<b>NEG</b>	NEG	NEG
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 AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>158	<b>&lt;1</b>	2	2
Boron	ppm	ASTM D5185m	250	<b>32</b>	443	337
Barium	ppm	ASTM D5185m	10	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	100	<b>26</b>	121	118
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
Magnesium	ppm	ASTM D5185m	450	<b>317</b>	680	644
Calcium	ppm	ASTM D5185m	3000	<b>1848</b>	1516	1480
Phosphorus	ppm	ASTM D5185m	1150	<b>922</b>	748	753
Zinc	ppm	ASTM D5185m	1350	<b>1054</b>	827	809
Sulfur	ppm	ASTM D5185m	4250	<b>3929</b>	2543	2926
Acid Number (AN)	mg KOH/g	ASTM D8045		<b>1.48</b>	0.75	0.64
Visc @ 40°C	cSt	ASTM D445	115	<b>75.8</b>	73.1	75.6



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : MW0048332  
**Lab Number** : 06186872  
**Unique Number** : 11043624  
**Test Package** : MAR 2

**Received** : 21 May 2024  
**Tested** : 23 May 2024  
**Diagnosed** : 23 May 2024 - Wes Davis

**C & B MARINE**  
 50 E RIVERCENTER BLVD, SUITE 1180  
 COVINGTON, KY  
 US 41011

Contact: DAVID WESTRICH  
 dwestrich@carlislebray.com

T: (812)290-4063  
 F: (859)655-7504

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)