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Rpt. C.11.

13 AUG 1932

Index No. 23988
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. 31005

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having Quarter Deck, Bridge & Forecastle
(Type of Superstructures.)

Port of Survey Sunderland

Date of Survey 12th August 1932.

Name of Surveyor D. F. Eaton

Ship's Name "BAMBURGH" Nationality and Port of Registry British Sunderland Official Number 137246 Gross Tonnage 648 Date of Build 1914
12 Mo.

Moulded Dimensions: Length 179.79' Breadth 27.79' Depth 13.5'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1190 tons

Coefficient of fineness for use with Tables .727

Particulars of Classification +100 A.I.
5.5 SH. No. 3-12.27

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	13.5	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	27.79
Stringer plate	.42	(13.54 - 11.99) x 1.383 =	2.14	Standard Round of Beam = $\frac{B \times 12}{50}$	6.64
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	7" = 4.00
T $\left(\frac{L-S}{L}\right) =$		If restricted by superstructures		Difference	excess .33
Depth for Freeboard (D) =	13.54			Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right)$	$= \frac{.33}{4} \times .1611 = 0.01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure <u>6.0</u>
" overhang						" " R.Q.D. <u>3.532</u>
R.Q.D. enclosed	119.2	119.2	3.5	3.532	118.08	Deduction for complete superstructure <u>23.98</u>
" overhang						Percentage covered $\frac{S}{L} = 84.53$
Bridge enclosed	11.0	11.00	7.0		11.00	" $\frac{S_1}{L} = 83.89$
" overhang aft						" $\frac{E}{L} = 83.30$
" overhang forward	19.51	19.51	7.0		19.51	Percentage from Table, Line A. <u>79.39</u>
F'cle enclosed	17.10	17.10	7.0		17.10	(corrected for absence of forecastle (if required))
" overhang	4.8	4.8	7.0		4.8	Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = $.7939 \times 23.98 = 19.04$
" forward						
Total	151.99	150.83			149.75	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	27.98	1		27.98	31.5	27.98	1		27.98	Mean actual sheer aft = excess.
1/4 L from A.P.	12.45	4		49.80	13.43	12.45	4		49.80	Mean actual sheer forward = deficient.
1/2 L	3.08	2		6.16	3.34	3.08	2		6.16	Mean standard sheer forward
Amidships	-	4		-	0	-	4		-	Length of enclosed superstructure forward of amidships =
3/4 L from F.P.	6.16	2		12.32	6.10	6.10	2		12.20	" " aft of " =
1/4 L	24.91	4		99.64	24.49	24.49	4		99.96	
F.P.	55.96	1		55.96	54.0	54.00	1		54.00	
Total				251.86					244.90	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{3.76}{18} \left(\frac{75-42.26}{2} \right) = 0.07$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.727 + .68}{1.36} = \frac{1.407}{1.36}$
RAISED OR Depth to Freeboard Deck = 14.04	Δ =	Depth Correction ... 2.14
Summer freeboard = 3.79	Tons per inch immersion at summer load water line	Deduction for superstructures ... 19.04
Moulded draught (d) = 13.25	T =	Sheer correction ... .07
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.31	Deduction = $\frac{\Delta}{40 T}$ inches	Round of Beam correction ... .01
Addition for Winter North Atlantic Freeboard (if required) = 2"		Correction for Thickness of Deck amidships ... 42
		Other corrections, scantlings, etc. ...
		Summer Freeboard = 45.61

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, RAISED QUARTER, Steel Deck:—

Tropical Fresh Water Line above Centre of Disc	4 3/4"	Tropical Fresh Water Freeboard
Fresh Water Line	3 3/4"	Fresh Water
Tropical Line	1 1/2"	Tropical
Winter Line below	3 1/2"	Winter
Winter North Atlantic Line	5 1/2"	Winter North Atlantic

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RECEIVED 20/1/41

RECEIVED 10 MAR 1936

RECEIVED 18 AUG 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		No 1 on MAIN DK.	No 2 on R.Q. DK.	Bunker Hatch on Casings Top					
Dimensions of Hatchway		27'0" x 16'11 1/2"	45'2" x 16'11 1/2"	16'0" x 7'3"					
COAMINGS	Height above Deck	30"	30"	18"					
	Thickness	48	54	36					
	Sides	40	40	36					
	Ends	40	40	36					
COAMINGS	Stiffeners	6 x 3 x 36 BA	6 x 3 x 36 BA	✓					
	Brackets	2" dia.	2" dia.	✓					
	Stays	2 @ 10' 8 1/2" apart	4 @ 10' 0" apart	✓					
HATCH BEAMS	Number	14	8						
	Spacing	5' 4"	5' 0"						
	Scantling and Sketch	5" x 3" x 40 24" x 8" x 34 5" x 3" x 40	22" x 16 1/2" x 34 4" x 3" x 40	NONE.					
	Bearing Surface	3"	3"						
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch		NONE.						
HATCH COVERS	Material	25P	25P	25P					
	Thickness	3"	3"	3"					
	How fitted	F&A	F&A	F&A					
	Bearing Surface	3"	3"	2"					
Spacing of Cleats		21"	21"	21"					
Number of Tarpaulins		3.	3.	1.					
<p>*Are wood fore and afters steel shod at all bearing surfaces? none</p> <p>Are battens and wedges efficient and in good condition? Yes</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes</p> <p>Are lashings provided in accordance with rule requirements? Yes</p>									
<p>Hatch on Main St. in Forecastle, 22" x 24" No Coaming, wood cover.</p> <p>Hatch on R.Q.Dk. aft. to After Peak Store, 21 1/2" x 28" Coaming 18" x 25." cleats covers & locking bar.</p>									

Particulars of fiddley, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel hinged covers
 Engine & Boiler room ventilators in efficient condition
 Engine room skylight of steel. Strongly constructed.

Particulars of Flush Bunker Scuttles:—

NONE.

Particulars of Companionways:—

NONE.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

Two vents on Forecastle, 6" dia. Coaming 24" x 20 To Crew.
 One on Main St. fore well, 12" dia. x " 36" x 22 To Hold.
 " " " " 12" " x " 42" x 30 To Hold.
 Four mushrooms on Bridge 6" " x " 8" x 25 To Officers Accommodation.
 Two on R.Q.Dk. 12" dia. x " 37" x 20 To Hold.

Wood plugs & Canvas covers fitted.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

one 2" dia. Air Pipe on Forecastle, 7" high to mouth. To Fore Peak tank.
 " 2" " " " Main St. 6" " " " To No 1 S.B. Tank.
 Two 2" " " " R.Q. Dk. 7" " " " To No 2 " "
 one 2" " " " " 11" " " " To After Peak tank.

Wood plugs fitted.

Particulars of Gangway Cargo and Coaling Ports:—

NONE.



Particulars of Scuppers and Sanitary Discharge Pipes :—

Three scuppers each side of R. & Q. St. Stronger bar cut.

Two " " " " Main St

Two 3 1/2" Sanitary discharge pipes, led out below R.G. St. C.I. Black valves fitted. Engineers Office Account
One 3 1/2" " " " Main St. " " " " " "

One 3 1/2" " " " " Main Sk.

Particulars of Side Scuttles:—

Two in Bridge sides. 9" dia. Deadlights fitted.

Spec in Forecastle. 9" in

all of substantial construction.

Particulars of Guard Rails :—

Rails on Incecastle. 2 pods, 3'0" high, stanchions spaced 4'6" apart.

Steel Bulwarks on fore well 3'-6" high

R. Q. Sk. 3'-0" Δ
Bridge Sk. 2'-9" "

Bulwarks strongly constructed & Supported.

Particulars of Gangways, Lifelines, etc.:—

Sittings arranged, & lifelines available
in fore well.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	119'-2"	3.0'	$\left\{ \begin{array}{l} 2.0' \times 1.5' \\ 3.0' \times 1.5' \end{array} \right\}$	$\left\{ \begin{array}{l} 2 \\ 4 \end{array} \right\}$	$\begin{array}{l} 24 \\ \hline 18 \text{ sq.} \end{array}$	$23 \frac{3}{4}$
Forward Well	27'-9½"	3.5'	3.0' x 1.83	2.	10.98 sq.	9¼

State position of each freeing port } After Well:—
(F. and A. position and height above deck edge) } Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

Additional area where sheer is less than standard.

Diagram showing dimensions for the After Well and Forward Well:

After Well: 39'-9" (total length), 20'-5" (first section), 23'-1" (second section), 13'-2" (third section). Bridge after end. 4½" above deck edge.

Forward Well: 3'-6" (first section), 16'-6" (second section). Bridge after end. 12½" " " "

Shutted Shuttles. with one 7/8" rod. Horizontal.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

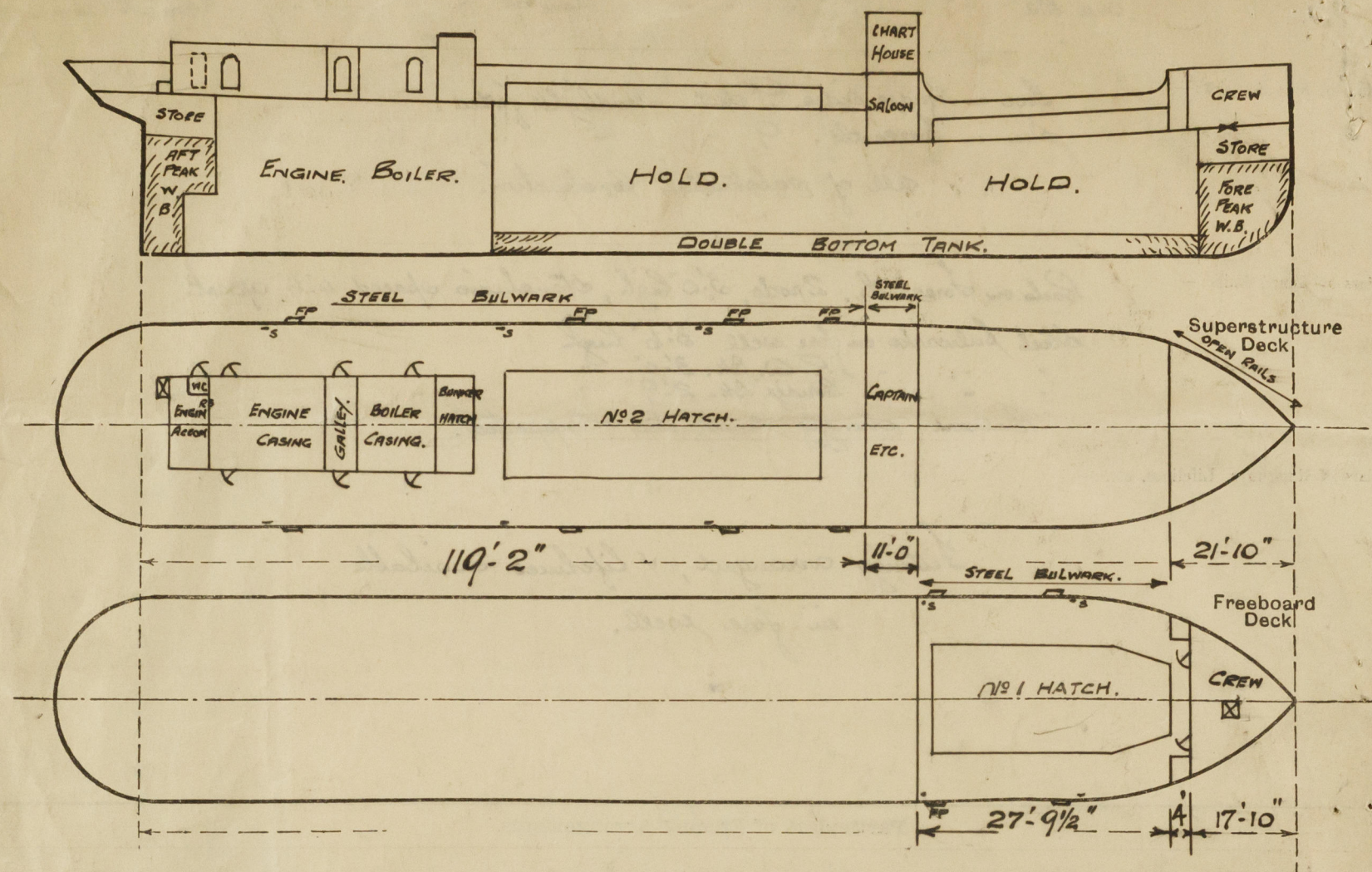
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	<i>Vertical Plating</i>	<i>.25</i>	<i>3 1/2" x 3" .25</i>	<i>2'-4"</i>	<i>Joistens & Brackets at bottom</i>	<i>1 @ 4'-6" x 22"</i>	<i>19"</i>	<i>7.0'</i>
Bridge, Forward Bulkhead	<i>Vertical Plating</i>	<i>.30</i>		<i>26"/30"</i>		<i>✓</i>	<i>✓</i>	<i>7.0</i>
Forecastle Bulkhead	<i>19" x .30</i>	<i>.25</i>	<i>3" x 3" .25</i> <i>diversal bulkhead</i>	<i>4'-0"</i>	<i>none.</i>	<i>2 @ 4'-3" x 22"</i>	<i>19"</i>	<i>7-0</i>
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free board of Raised Quarter Decks ...	<i>19" x .36</i>	<i>.25</i>	<i>3" x 2 1/2" .25</i>	<i>30"</i>	<i>Brackets at top to beams.</i>	<i>6 @ 4'-3" x 22"</i> <i>1 @ 4'-7" x 21"</i>	<i>19"</i>	<i>7-0'</i>
Exposed Machinery Casings on Super- structure Decks								
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	...	...	...	—
Raised Quarter Deck Bulkhead	...	...	...	—
Bridge, After Bulkhead	...	...	...	Leak Door 1 1/2" with 3/4" Panels. operated both sides. To Saloon Accom ^{ny} .
Bridge, Forward Bulkhead	...	...	...	none. openings
Forecastle Bulkhead	...	...	...	Two Steel doors. 25. operated both sides. To Crew Accom ^{ny} .
Exposed Machinery Casings on Fore board Raised Quarter Decks	...	...	...	Six Steel doors. 25. To Holdley, Galley & Engine Room.
Exposed Machinery Casings on Super- structure Decks	...	...	...	One Leak door. 1 1/2" with 3/4" Panels. operated both sides To Engine W.C.
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	—
Deckhouses on Flush Deck Ships	—

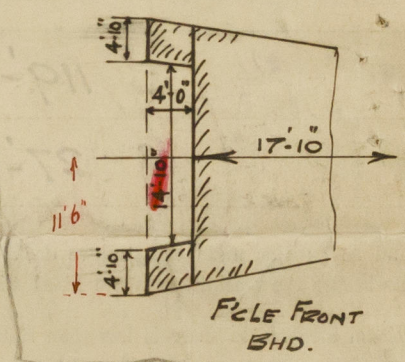
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo, and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:—

The vessel has been surveyed in Dry Dock.
She is also undergoing S. S. Second No 1 & L.M.C.



FILE. 21.83
ENCL. 17.83
HOUSE 11.5 = 1.68 19.51 EQUIV
2.82 O.H.

Builder's name and yard number Messrs W. Harkness & Son. Ltd. Middlesbrough.

Names of sister ships

Owners Tyne Tees Steam Shipping Coy. Ltd.

Fee £ 6 : 16 : -

Received by me