

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having COMBINED FORECASTLE AND BRIDGE DECK

Port of Survey LONDON

Date of Survey 18th AUGUST 1932

Name of Surveyor G. Scantlebury

Particulars of Classification ~~AI~~ WITH FREEBOARD
For service between London, ~~Brest & Hamburg~~ S.S. No. 3-1.22 SS. No. 2-81

Ship's Name BRITANICA
Nationality and Port of Registry BRITISH LONDON
Official Number 149915
Gross Tonnage 1550
Date of Build 1913
4 MO

Moulded Dimensions: Length 220.0 Breadth 42.0 Depth 12.7
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2394 tons
Coefficient of fineness for use with Tables .848

Depth for Freeboard (D)
Moulded depth ... 12.58
Stringer plate03
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) = \frac{12.21}{220} = .01$
Depth for Freeboard (D) = 12.62

Depth correction
(a) Where D is greater than Table depth
(D-Table depth) R =
(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =
(14.67 - 12.62) 1.692 = -3.47
If restricted by superstructures

Round of Beam correction
Moulded Breadth (B) 42.0
Standard Round of Beam = $\frac{B \times 12}{50} = 10.08$
Ship's Round of Beam = 11.2
Difference 8.58
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{8.58}{4} (1 - .9454) = +.12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...	12.00	see C1 (contd)			
" overhang ...					
Bridge enclosed ...					
" overhang aft ...	208.0	208.0	6'0" x 9'7"		208.0
" overhang forward ...					
Ele enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	208.0	208.0			208.0

Standard Height of Superstructure 6.0
" " R.Q.D.
Deduction for complete superstructure 28.0
Percentage covered $\frac{S}{L} = 94.54$
" $\frac{S_1}{L} = 94.54$
" $\frac{E}{L} = 94.54$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 93.28
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = 28 + 93.28 = -26.12

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	32.00	1	32.00	31.75	.75	1	.75
$\frac{1}{4}$ L from A.P. ...	14.24	4	56.96			4	
$\frac{2}{8}$ L " ...	3.52	2	7.04			2	
Amidships ...		4				4	
$\frac{3}{8}$ L from F.P. ...	7.04	2	14.08		4.94	2	9.88
$\frac{1}{4}$ L " ...	28.49	4	113.96		19.78	4	79.12
F.P. ...	64.00	1	64.00	11.2	44.46	1	44.46
Total ...			288.04	+ 42.96			134.21

Mean actual sheer aft = defect
Mean standard sheer aft
Mean actual sheer forward = defect
Mean standard sheer forward
Length of enclosed superstructure forward of amidships =
" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{153.83}{18} (.75 - .4727) = +2.37$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.
+ 2 1/2 wood Ft.
Depth to Freeboard Deck = 12.82
Summer freeboard = 396
Moulded draught (d) = 8.86

Deduction for Fresh Water.
Displacement in salt water at summer load water line
 $\Delta = 1974$
Tons per inch immersion at summer load water line
T = 19.75
Deduction = $\frac{\Delta}{40 T}$ inches
= 2.5
= 2 1/2

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient $\frac{848 + .68}{1.36} = \frac{1.528}{1.36}$
Depth Correction ... 3.47
Deduction for superstructures ... 26.12
Sheer correction ... 2.37
Round of Beam correction12
Correction for Thickness of Deck amidships ... 2.38
Other corrections, scantlings, etc. ... 42.33

26.60
29.89

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2.22 = 2 1/4
Addition for Winter North Atlantic Freeboard (if required) =

47.20 29.59 + 17.61
Summer Freeboard = 47.50

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck :-

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

Tropical Fresh Water Freeboard ... 3-11 1/2
Fresh Water " " ... 3-6 3/4
Tropical " " ... 3-9 1/2
Winter " " ... 4-13 1/4
Winter North Atlantic " " ...

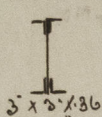
24 AUG 1932

MARKING FORM
3 APR 1933

MARKING FORM
25 FEB 1935

MARKING FORM
30 SEP 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS													
Description of Hatchway				Nº 1	Nº 2		TO SANDUST LOCKER IN TWEEN DK		BUNKER HATCH AFT END OF HOUSE		BUNKER HATCHES.		
Dimensions of Hatchway				1P 1S. 8-0 X 11-6	1P 1S. 10-0 X 11-6		1P 1S. 6-0 X 3-8		1P 1S. 4-0 X 4-0		1P 1S. 2-0 X 5-0		
COAMINGS	{	Height above Deck ...	24 1/2"	24 1/2"		9"		12"		18"			
		Thickness ...	Sides36	.36	.25	.25	.25	.25	.36			
			Ends ...	.36	.36	.25	.25	.36				
		Stiffeners ...	✓	✓	✓	✓	✓						
		Brackets, Stays ...	✓	✓	✓	✓	✓						
HATCH BEAMS	{	Number	1	1		✓							
		Spacing	4-0	5-0									
		Scantling and Sketch ...	10" X .32	10" X .32									
		Bearing Surface ...		As Nº 1									
			3' x 3' x 36	3"									
FORE AND AFTERS	{	Number											
		Spacing											
		Unsupported Lengths ...											
		Scantling* and Sketch ...											
		Bearing Surface ...	INSULATED PLUG HATCHES	INSULATED PLUG HATCHES									
HATCH COVERS	{	Material	PINE	PINE		PINE		PINE		PINE			
		Thickness	2 1/2"	2 1/2"		2 1/2"		2 1/2"					
		How fitted	F & A.	F & A.		F & A.		F & A.					
		Bearing Surface ...	2 1/4"	2 1/4"		2 1/4"		2 1/4"					
Spacing of Cleats				24"	24"		31"		24"		24"		
Number of Tarpaulins				2	2		2		2		2		

*Are wood fore and afters steel shod at all bearing surfaces ?

Are battens and wedges efficient and in good condition ?

Are tarpaulins in good condition and in accordance with rule requirements ?

Are lashings provided in accordance with rule requirements ?

YES

YES

NO

Particulars of ~~hull~~, funnel and ventilator coamings:— ON BRIDGE DECK OVER ENGINE ROOM

No stowhold grating fitted. Funnel and vents in efficient condition. Engine room skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:— One L.S. Scuttle on deck forward to chain locker. 19" dia. Bayonet-type

Particulars of Companionways:— One steel Companion 10-0 x 9-0' x 6-9" high on forecastle deck leading to enclosed forecabin door of steel with sill 9 1/2" high. Operated from both sides.
One steel Companion 2-0 x 2-0' x 5-9" high leading to Engine Room. Door of steel with 18" sill operated from both sides.

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

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

1	Vent. on Superstructure Deck.	6" dia openings	14 1/2" X 34"	to drain lockers.
5	"	"	18" X 34"	" " " " " "
3	"	"	15" X 34"	" " " " " "
2	"	"	24" X 34"	" " " " " "
1	"	"	60" X 34"	" " " " " "
1	"	"	60" X 34"	" " " " " "

Small vents fitted with canvas covers. Effluent means of cleaning provided.

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

particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks.:

Air Pipe on superstructure deck.		32' high	1 1/2" dia to 3' Peak	clipped to belworks
2 "	"	10 "	1 " " " D. B. S.	" " hatch coaming
4 "	"	5 "	1 " " " " "	" " " "
1 "	"	6 "	1 " " " " "	" " " "
2 "	"	10 "	1 " " " " " A. P.	" " " "

Not fitted with flanges.

Officer
Close

Particulars of Gangway Cargo and Coaling Ports :— *None*

Particulars of Scuppers and Sanitary Discharge Pipes :— *all above freeboard deck*

Particulars of Side Scuttles :— *all fitted with hinged deadlights*

Particulars of Guard Rails :— *iron side houses forward to aft-end of bridge deck 3'-10" high with two wires and hinged stanchions spaced 8'-0" apart.*

Particulars of Gangways, Lifelines, etc. :— *No special fittings provided*

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	20-0'	4-3"	2-0' x 1-3'	1	2.5 sq ft.	
Forward Well						

State position of each freeing port } After Well :— @ 10 ft. from fore end. 15" above deck.
(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 :— *hinged shutter and one bar.*
Additional area where sheer is less than standard.

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 ... ..	.25	.25	2 1/4 x 2 1/4 x .32	24"	NONE	NONE	✓	6-0"
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	.25	.25	2 1/4 x 2 1/4 x .32	24"	NONE	NONE	✓	6-0"
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures 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	NONE
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	NONE
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

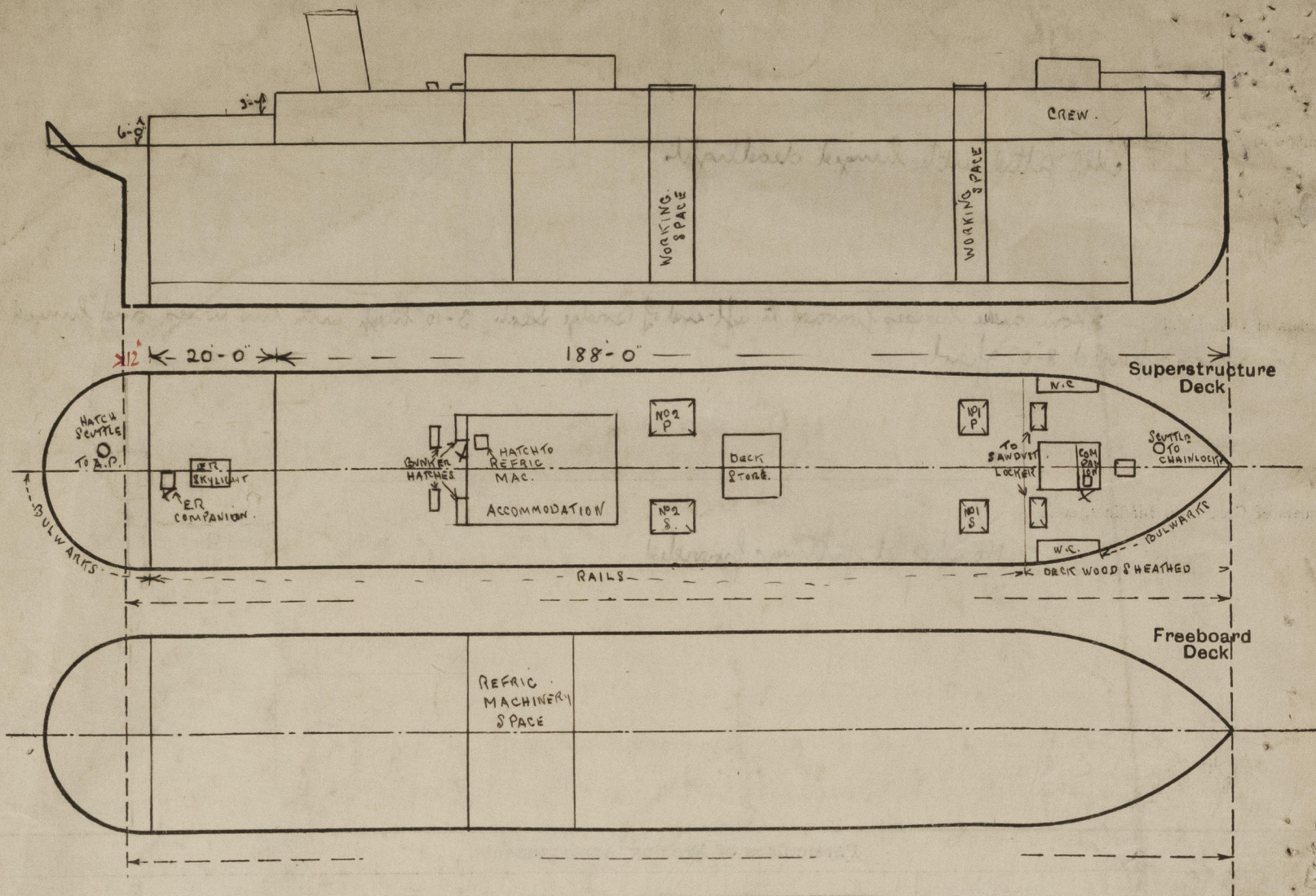


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Bulwarks

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:—



Survey carried out afloat and confined to above.

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

Steel Hatch Scuttle on after Well to after Peak with coaming 18" dia by 18" high with hinged steel lid. Steel door at aft end of deckhouse gives access to Refrigeration Machinery Space through flush open hatch. Door 4'-10" x 2'-2" till 12" operated from both sides.

Builder's name and yard number MESSRS CAMMELL LAIRD & CO LTD. No 490

Names of sister ships

Owners UNION COLD STORAGE CO. (BLUE STAR LINE)

Fee £ 8 : 10 : 0 Received by me

20 AUG 1932



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