

14 DEC 1935

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 56433

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a complete superstructure without tonnage openingPort of Survey Glasgow

(Type of Superstructures.)

Date of Survey 12th Dec. 1935

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
FORT AMHERST	Antish London	164573	3489.	1936-1

Name of Surveyor J.C. Thomson

Moulded Dimensions: Length 310'-0" Breadth 45'-0" Depth 27'-1" to 0.05 ~~19'-1" to 0.05~~
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 23.02 = 6030 ~~14.00 = 3950~~ tons
 Coefficient of fineness for use with Tables 0.657 ~~0.657~~ (68 lower) ~~615~~ 16.22 FI

Particulars of Classification +100A1 with freeboard
(class contemplated).

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	27.08	(a) Where D is greater than Table depth (D - Table depth) R =	15.35	Moulded Breadth (B)	45'
Stringer plate	1.44	(27.11 - 20.67) × 2.384 =	15.35	Standard Round of Beam = $\frac{B \times 12}{50}$	10.8
Sheathing on exposed deck	✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	6.44	Ship's Round of Beam	2.2
$T \left(\frac{L-S}{L} \right) =$	✓	If restricted by superstructures	✓	Difference	4.8
Depth for Freeboard (D) =	27.11			Restricted to	✓
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{4.8^2}{4} \times 20 = +.24$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	201.5	201.5	8.0	-	201.5
„ overhang			+2.1		
R.Q.D. enclosed					
„ overhang					
Bridge enclosed	310.0		8.0	-	
„ overhang aft					
„ overhang forward					
F'cle enclosed	46.5	46.5	8.0	-	46.5
„ overhang			+2.1		
Trunk aft					
„ forward					
Tonnage opening aft					
„ forward					
Total	248.0	248.0			248.0

Standard Height of Superstructure 6.60„ „ R.Q.D. 36'Deduction for complete superstructure 36'Percentage covered $\frac{S}{L} = 80.0$ „ „ $\frac{S_1}{L} = 80.0$ „ „ $\frac{E}{L} = 80.0$ Percentage from Table, Line A. 75.3

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. ✓

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 36 × 75.3 = - 27.11

UPPER DECK

SHEER CORRECTION.

Actual height of superstructure = 8.21 feet
Standard height = 6.60 feet
Difference = 1.61 feet = 19.32

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	41.00	1		41.00	41.00	60.32	1		60.32
$\frac{1}{2}L$ from A.P.	18.245	4		72.98	18.245	26.84	4		107.36
$\frac{2}{3}L$ „	4.51	2		9.02	4.51	6.64	2		13.28
Amidships	-	4		-	-	-	4		-
$\frac{2}{3}L$ from F.P.	9.02	2		18.04	9.02	10.00	2		20.00
$\frac{1}{2}L$ „	36.49	4		145.96	36.49	39.75	4		159.00
F.P.	82.00	1		82.00	82.00	92.50	1		92.50
Total	369			369.00					452.46

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{83.46}{18} \left(.75 - \frac{40}{2 \times 310} \right) = - 1.62$

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.

Depth to Freeboard Deck = 27.11
 Summer freeboard = 8.48
 Moulded draught (d) = 18.63

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4.66 = 4 $\frac{3}{4}$ Addition for Winter North Atlantic Freeboard (if required) = 6 $\frac{3}{4}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line 18.76Δ = 4671
Tons per inch immersion at summer load water lineDeduction = $\frac{\Delta}{40T}$ inches
= 4.61 $d/4 = 4\frac{3}{4}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction 15.35Deduction for superstructures 27.11Sheer correction 1.62Round of Beam correction 0.24Correction for Thickness of Deck amidships 1.00Other corrections, scantlings, etc. 68.99Total 84.58Summer Freeboard = 101.75

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

Tropical Fresh Water Line above Centre of Disc	9 $\frac{1}{2}$
Fresh Water Line	4 $\frac{3}{4}$
Tropical Line	4 $\frac{3}{4}$
Winter Line below	4 $\frac{3}{4}$
Winter North Atlantic Line	6 $\frac{3}{4}$

Tropical Fresh Water Freeboard	7'-8 $\frac{1}{4}$
Fresh Water	8'-2
Tropical	8'-2
Winter	8'-11 $\frac{1}{2}$
Winter North Atlantic	9'-1 $\frac{1}{2}$

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
F.D. U.D. POOP DECK										
Description of Hatchway	Nº-1	Nº-2	Nº-3	TO STORE AFT						
Dimensions of Hatchway	16'-0" x 12'-0"	28'-9" x 14'-0"	24'-9" x 12'-0"	1'-5" x 2'-5"						
COAMINGS	Height above Deck	27	30	27	15					
	Thickness	.44	.44	.44	.40					
	Sides	.44	.44	.44	.40					
	Stiffeners	9 x 3 1/2 x .44	9 x 3 1/2 x .44	9 x 3 1/2 x .44	none					
HATCH BEAMS	Number	3	6	5						
	Spacing	4'-0"	4'-1 1/4"	4'-1 1/4"						
	Scantling and Sketch	13 3/4 x 30	12 3/4 x 30	13 3/4 x 30	none					
	Bearing Surface	3	3	3						
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths									
	Scantling* and Sketch									
HATCH COVERS	Material	WP	WP	W.P.	W.P.					
	Thickness	2 1/2	2 1/2	2 1/2	2 1/2					
	How fitted	F+A	F+A	P+A	1/2					
	Bearing Surface	3	3	3	2 3/4					
Spacing of Cleats	24	24	24	20						
Number of Tarpaulins	2	2	2	2						
<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>										

Particulars of fiddle, funnel and ventilator coamings:—

Engine skylight on casing top of steel and of strong construction
Fidley openings protected by beveled steel covers.
Ventilators on casing top of strong construction

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:—

Entrances in house on Poop deck aft.
aft end 5'-3" x 2'-5" - sill 11" above wood deck.
side 5'-3" x 1'-9" - " 19" - - -
Entrances in house on Bridge deck.
aft end 5'-6" x 2'-5" - sill 10" above wood deck
starboard 5'-3" x 2'-5" - "
Forward 5'-6" x 4'-6" - "

Doors of teak 1 3/4" thick
manipulated from both sides.

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

2 Ventilators on fore deck to hold. coamings 36 x 12 x .34	2 Ventilators on poop deck to hold. coamings 30 x 12 x .34	Vent coamings closed with wood plugs & canvas covers.
2 - - - - - T.D. 36 x 12 x .34	2 - - - - - T.D. 30 x 10 x .32	
2 - - - - - 36 x 9 x .32	3 - - - - - 30 x 9 x .32	
9 - - - - - 36 x 6 x .30	- - - - - 30 x 6 x .30	
3 - - - - - 6 x 4 even neck.	1 - - - - - 6 x 4 even neck	
2 - - - - - 4" dia 36 x 12 x .34	4 - - - - - 4" dia	
6 - - - - - upper deck to hold T.D. 36 x 10 x .32	3 - - - - - 30 x 10-9 x .30	
2 - - - - - 40 x 9 x .32		

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

1 air pipe in forecastle deck to f.p. tank. 18" high x 3 1/2" dia.	
1 - - - - - d.b. 18" x 5" -	
2 - - - - - upper 30" x 6" -	
4 - - - - - bridge 18" x 2" -	
12 - - - - - 18" x 2 1/2" -	
2 - - - - - poop 18" x 2 1/2" -	

air pipes closed with wood plugs and canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

Gangway door between upper & 2nd deck where shown on sketch
6'-0" x 3'-6" - 9" sill.
Gangway door between bridge & upper deck
6'-6" x 6'-2 1/2" - 8" sill.
oil filling door between upper & 2nd deck
3'-9" x 2'-6" - 31" sill.
all doors watertight, strongly constructed and securely fastened



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Scupper pipes from weather decks led to just above waterline and fitted with storm valves at ships side.
 Scupper pipes from 2nd deck are led to helges.
 Sanitary discharge pipes from 2nd deck are led to sludge tanks and thence overboard.
 Sanitary discharge pipes from upper deck are led to just above waterline and fitted with back-balanced storm valves at ships side.

Particulars of Side Scuttles:—

Side scuttles upper to 2nd deck 15'-14'+10' dia. fitted with beveled steel deadlights.
 " " bridge to upper deck 15' + 13' dia - - portable
 " " Forecastle to upper deck 10" " " beveled
 There are no side scuttles below 2nd deck.

Particulars of Guard Rails:—

Swath rails on forecastle deck 3'-9"-high with 3 rods. stanchions 5'-6" apart
 " " " poop - 3'-9" - - 5' - - 5'-0"
 a bulwark 3'-9"-high is fitted at sides of bridge deck where shown in sketches.

Particulars of Gangways, Lifelines, etc.:—

none.

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						
Forward Well	63'-6"	3'-7"	33" x 17"	3	11.7	6.37

State position of each freeing port { After Well:—
 (F. and A. position and height above deck edge) Forward Well:— 8'-6", 25'-0" + 41'-2" forward of bridge bulkhead
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 bar across each port.
 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								
Bridge, Forward Bulkhead	none	.40	8 x 3 x .40 B1	30	lags T + B	none	✓	✓
Forecastle Bulkhead	none	.30	4 x 3 x .32	24	none	5'-0" x 2'-1"	18"	✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...				none				
Exposed Machinery Casings on Super-structure Decks				none				
Machinery Casings within Superstructures not fitted with Class I Closing Appliances				none				
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	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	NO OPENINGS
Exposed Machinery Casings on Super-structure Decks	Hinged wood and steel doors manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

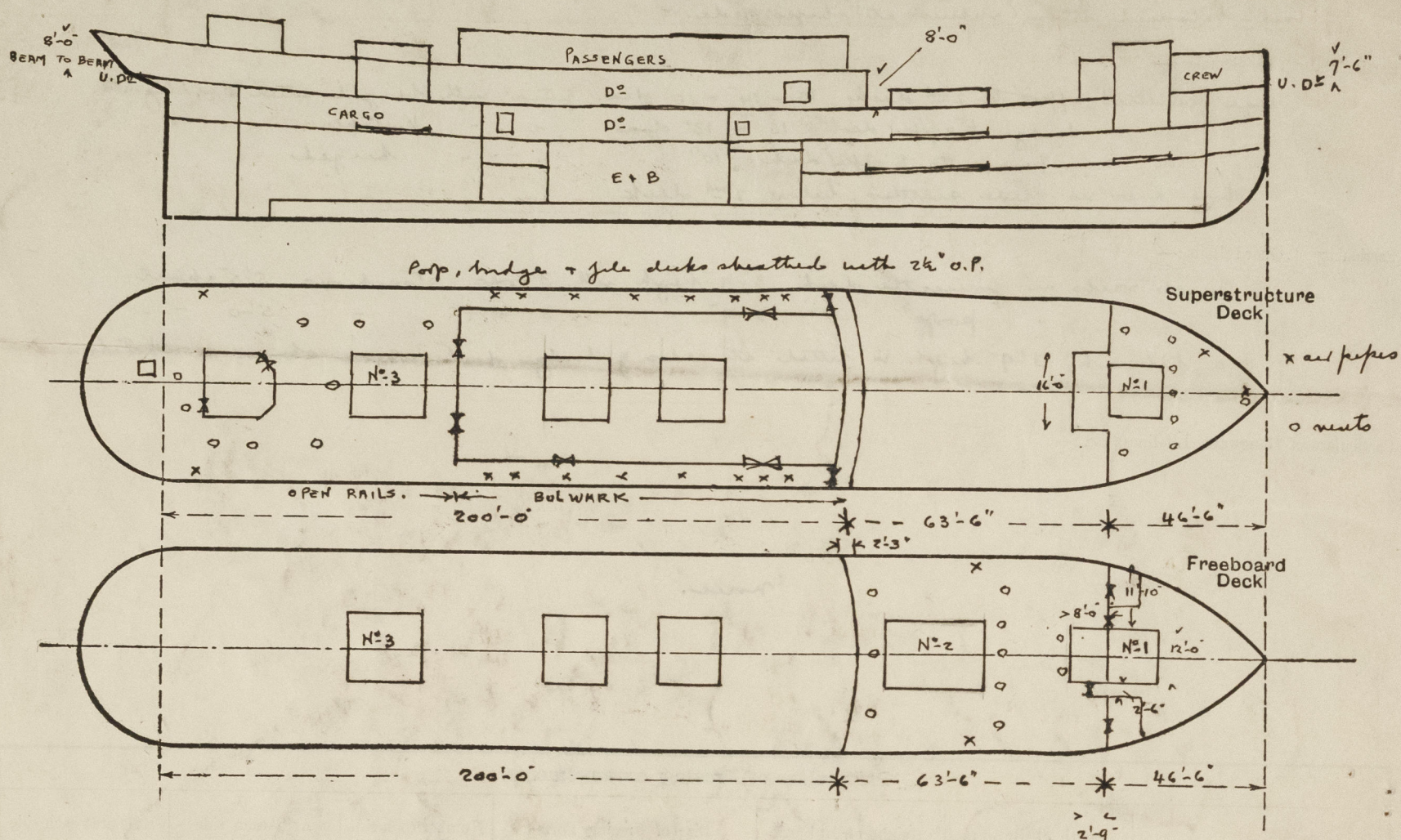


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



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

The scantlings of this vessel have been approved for a rounded draft of 18'-7½".
 approved plans of Midship Section, Profile & Deck enclosed herewith
 for reference (2 plans) ✓

The Watertight bulkheads have been extended to the upper deck where
 shown on sketches

The vessel is intended for the New York - Newfoundland service.

The upper deck amidships is sheathed with ¼" Korkboard on ¾" Teakboard
 total of 1".

$$\begin{array}{r} \text{Poop} \\ 2.25 \times \frac{2}{3} = \frac{200}{1.5} \\ \hline 201.5 \end{array}$$

Builder's name and yard number Blythwood S. B. Co Ltd No 39.

Names of sister ships none.

Owners Furness Red Cross Line. (Furness Withy & Co.).

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