

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 52509Computation of Freeboard for Steamer, Sailing Ship, Tankerhaving a poop bridge and forecastlePort of Survey Glasgow

(Type of Superstructures.)

Date of Survey 17th May 1932

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

MaiharBritish
Liverpool1405187563
75561917-6Name of Surveyor H. Thomson.Moulded Dimensions: Length 469.2Breadth 58.0Depth 34.10

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

17661

tons

Coefficient of fineness for use with Tables .467Particulars of Classification +100A110.5-2.30

Depth for Freeboard (D)				Depth correction		Round of Beam correction	
Moulded depth	<u>34.83</u>	(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	<u>58.0</u>
Stringer plate	...	<u>.46</u>	...	<u>(34.83 - 31.28) x 3 = 6.10</u>	<u>10.17</u>	Standard Round of Beam = $\frac{B \times 12}{50}$	<u>13.92</u>
Sheathing on exposed deck				(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam	<u>14.2</u>
$T \left(\frac{L-S}{L} \right) =$						Difference	<u>.58</u>
Depth for Freeboard (D) =			<u>34.84</u>	If restricted by superstructures		Restricted to	
						Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	<u>= .58 x .5386 = .08</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <u>equiv.</u>	<u>45.26</u>	<u>45.26</u>	<u>8'0"</u>	<u>✓</u>	<u>45.26</u>	Standard Height of Superstructure <u>4.5</u>
" overhang	<u>.82</u>	<u>.82</u>	<u>8'0"</u>	<u>✓</u>	<u>.82</u>	" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure <u>42.00</u>
" overhang						Percentage covered $\frac{S}{L} =$ <u>46.64</u>
Bridge enclosed <u>equiv.</u>	<u>120.13</u>	<u>120.13</u>	<u>8'0"</u>	<u>✓</u>	<u>120.13</u>	" " $\frac{S_1}{L} =$ <u>46.14</u>
" overhang aft	<u>4.53</u>	<u>4.53</u>	<u>8'0"</u>	<u>✓</u>	<u>4.53</u>	" " $\frac{E}{L} =$ <u>46.14</u>
" overhang forward	<u>4.53</u>	<u>4.53</u>	<u>8'0"</u>	<u>✓</u>	<u>4.53</u>	Percentage from Table, Line A.
Forecastle enclosed	<u>45.75</u>	<u>45.75</u>	<u>8'0"</u>	<u>✓</u>	<u>45.75</u>	(corrected for absence of forecastle (if required))
" overhang	<u>3</u>	<u>3</u>	<u>8'0"</u>	<u>✓</u>	<u>3</u>	Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required)) <u>32.72</u>
" forward						Interpolation for bridge less than 2L (if required) <u>✓</u>
Tonnage opening aft						Deduction = <u>.3272 x 42 = 13.74</u>
" forward						
Total	<u>218.83</u>	<u>216.49</u>			<u>216.49</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>56.92</u>	1		<u>56.92</u>	<u>68</u>	<u>68.00</u>	1		<u>68.00</u>	Mean actual sheer aft = <u>exen.</u>
$\frac{1}{8}$ L from A.P.	<u>25.33</u>	4		<u>101.32</u>	<u>29</u>	<u>30.02</u>	4		<u>120.08</u>	Mean standard sheer aft = <u>exen.</u>
$\frac{2}{8}$ L " "	<u>6.26</u>	2		<u>12.52</u>	<u>7</u>	<u>7.49</u>	2		<u>14.98</u>	Mean actual sheer forward = <u>exen.</u>
Amidships		4					4			Mean standard sheer forward = <u>exen.</u>
$\frac{3}{8}$ L from F.P.	<u>12.52</u>	2		<u>25.04</u>	<u>14.2</u>	<u>14.77</u>	2		<u>29.54</u>	Length of enclosed superstructure forward of amidships = <u>.126</u>
$\frac{4}{8}$ L " "	<u>50.66</u>	4		<u>202.64</u>	<u>60</u>	<u>59.25</u>	4		<u>237.00</u>	" " aft of " = <u>.13</u>
F.P.	<u>113.84</u>	1		<u>113.84</u>	<u>132</u>	<u>132.00</u>	1		<u>132.00</u>	
Total				<u>512.28</u>					<u>601.60</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{89.32}{18} \left(.75 - \frac{.2332}{2} \right) = -1.256$$

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 = 34.84
 Summer freeboard = 7.49
 Moulded draught (d) = 27.35

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.78Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 16217.04

Tons per inch immersion at summer load water line

 $T =$ 53.67Deduction = $\frac{\Delta}{40T}$ inches $=$ 4.55

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.707 + .60}{1.36} = \frac{1.447}{1.36}$ Depth Correction ... 10.17Deduction for superstructures ... 13.74Sheer correction ... 2.56Round of Beam correction08

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

+ -

10.17

13.74

2.56

.08

10.1716.385.64Summer Freeboard = 93.38SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—Tropical Fresh Water Line above Centre of Disc ... 14.5Fresh Water Line " " ... 4.5Tropical Line " " ... 6.5Winter Line below " " ... 6.5Winter North Atlantic Line " " ... 6.5Tropical Fresh Water Freeboard ... 6.5Fresh Water " " ... 4.5Tropical " " ... 6.5Winter " " ... 6.5Winter North Atlantic " " ... 6.5

26 MAY 1932

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS																
Description of Hatchway	Upper Deck										Bridge Deck		Upper Deck			
	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	No. 6.	No. 7.	No. 8.	No. 9.	No. 10.	No. 11.	No. 12.	No. 13.	No. 14.	No. 15.	No. 16.
Dimensions of Hatchway	20'3" x 18'0"	32'1" x 18'0"	13'9" x 18'0"	6'10 1/2" x 18'0"	16'0 1/2" x 18'0"	27'6" x 18'0"	28'5 1/2" x 18'0"	6'10 1/2" x 18'0"	8'6" x 18'0"	18'0" x 18'0"	13'5" x 18'0"	27'3" x 18'0"	9'0" x 18'0"	4'0" x 18'0"	4'0" x 18'0"	4'0" x 18'0"
COAMINGS	Height above Deck	30	30	30	9	30	30	30	30	30	30	30	30	30	30	30
	Thickness	4 1/4	4 1/4	4 1/4	50	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Sides	4 1/4	4 1/4	4 1/4	50	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Ends	4 1/4	4 1/4	4 1/4	50	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4	4 1/4
	Stiffeners	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	none	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40	7 x 3 x 40
	Brackets, Stays	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
HATCH BEAMS	Number	3	6	2	1	3	5	4	1	1	1	1	1	1	1	1
	Spacing	5'-0 3/4"	4'-7"	4'-7"	3'-5 1/4"	4'-0 1/4"	4'-7"	5'-1"	3'-5 1/4"	4'-3"	4'-3"	4'-3"	4'-3"	4'-3"	4'-3"	4'-3"
	Scantling and Sketch	17 x 37	16 x 37	16 x 37	15 x 36	15 x 37	16 x 37	16 x 37	14 x 37	14 x 37	14 x 37	14 x 37	14 x 37	14 x 37	14 x 37	14 x 37
	Bearing Surface	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44
	Bearing Surface	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
FORE AND AFTERS	Number	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
	Spacing	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
	Unsupported Lengths	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
	Scantling* and Sketch	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
	Bearing Surface	none	none	none	none	none	none	none	none	none	none	none	none	none	none	none
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
	How fitted	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A	F + A
	Bearing Surface	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Spacing of Cleats	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Number of Tarpaulins	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
*Are wood fore and afters steel shod at all bearing surfaces? <i>none</i> Are battens and wedges efficient and in good condition? <i>yes</i> Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i> Are lashings provided in accordance with rule requirements? <i>Ringbolts for lashings provided.</i>																

Particulars of fiddle, funnel and ventilator coamings:—

Engine skylight on casing top of steel strongly constructed
 Fiddle openings on casing top protected by strong hinged plate covers.
 Ventilators on casing top in good condition

Particulars of Flush Bunker Scuttles:—

Flush bunker scuttles on bridge deck where shown in sketch
 Scuttles 21" diameter of cast steel with bayonet joint.
 no chain fitted.

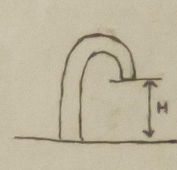
Particulars of Companionways:—

None.

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

1	Ventilator on forecastle deck to store coaming 30" high	x 11" dia	x 30	Ventilator coamings constructed in accordance with the Rules and closed with wood plugs and canvas covers.
2	" " " " " "	x 24	x 38	
4	" " " " " "	x 25	x 40	
2	" " " " " "	x 25	x 38	
4	" " " " " "	x 25	x 32	
2	" " " " " "	x 25	x 40	
2	" " " " " "	x 10	x 34	
1	" " " " " "	x 25	x 38	
2	" " " " " "	x 18	x 36	
2	" " " " " "	x 9	x 32	

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

1	air pipe on forecastle deck to f.p. tank	4 1/2 dia.	x 11 1/2 high	 No shifting holes fitted. <i>drilled in top of</i> <i>head of air pipes marked thus</i> Efficient means of closing air pipes provided.
1	" " " " " "	2	x 12	
3	" " " " " "	2	x 22	
2	" " " " " "	2	x 36	
4	" " " " " "	2	x 26	
8	" " " " " "	2	x 20	
2	" " " " " "	2	x 27	
2	" " " " " "	4 1/2	x 9	

Particulars of Gangway Cargo and Coaling Ports:—

1 Coaling port is fitted in bridge side plating where shown in sketch
 Door 5'-6" x 5'-0" strongly constructed and watertight
 Secured by clips 16" apart and 2 strongbacks.



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There are no scupper pipes discharging below the freeboard deck.
Sanitary discharge pipes are fitted where shown in sketch and have storm valves at ship's side.

There are no side scuttles fitted below the freeboard deck
Side scuttles in poop, bridge & fore-castle 9" dia fitted with hinged iron deadlights.

Guard rails on poop, bridge & forecastle decks 3'-6" high with 3 rods.
Stanchions 4'-6" apart.

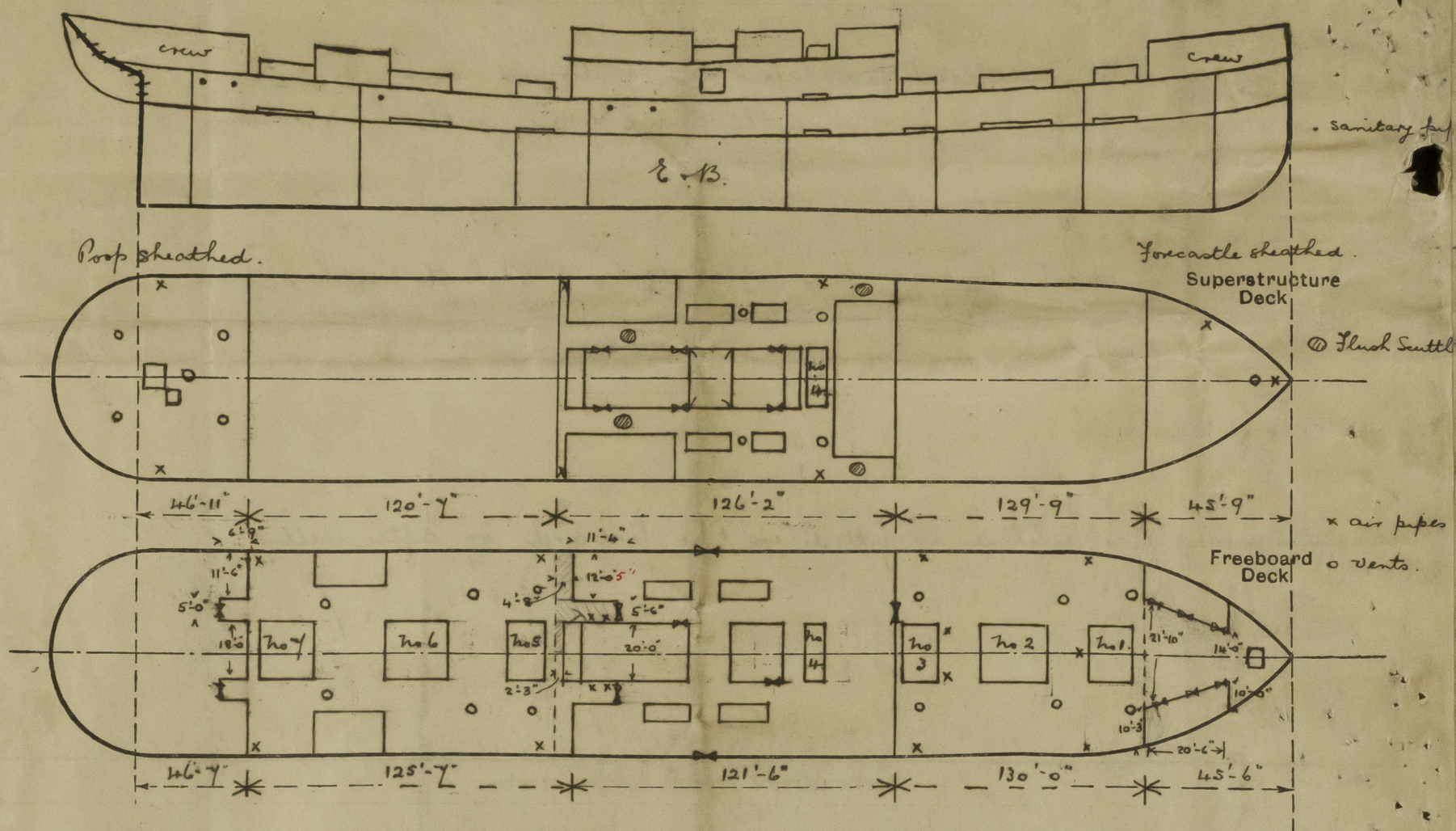
~~No gangway or lifelines~~ ~~is~~ fitted in the forward ~~xx~~^{and} after well.

0227 2 1/2

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	none	.42	7 x 3½ x .44A	30"	none	5'-6" x 2'-0"	18	✓
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	none	.26	3 x 3 x .30	36"	none	4'3" x 5'6"	none	✓
Bridge, Forward Bulkhead	none	.42	9 x 3½ x .56BA	30"	brackets top & bottom	5'5" x 3'0"	19	✓
Forecastle Bulkhead	none	.26	3 x 3 x .30	33"	none	5'0" x 2'0"	18	✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks	none	.30	4 x 3 x .40	30"	brackets at top	5'0" x 2'3"	18	8'-0"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	none	.32	4 x 3 x .40	30"	none	5'0" x 2'3"	18	✓
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	Teakwood doors 1 ⁵ / ₈ " thick manipulated from both sides
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	3" shifting boards in channels riveted to bulkhead ^{with 7" bulb angle vertical stiffeners} Full height of opening.
Bridge, Forward Bulkhead	Hinged steel door manipulated from ^{both} sides.
*Forecastle Bulkhead	Teakwood doors 1 ¹ / ₂ " thick manipulated from both sides. (Side Houses only)
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	^{2nd 19/7/37.}
Exposed Machinery Casings on Super-structure Decks	Hinged steel doors to fidley casing manipulated from both sides.
*Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged wood " " engine casing
Deckhouses on Flush Deck Ships ...	Hinged steel doors manipulated from both sides.

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:— This vessel is engaged in the Far East trade.

Timber freeboard not required.

Full displacement at 26.0 full draft	= 15379 tons	Tons per inch	= 53.5 tons.
" " " 27.0 " "	= 16027	" " "	= 53.66 "
" " " 28.0 " "	= 16677	" " "	= 53.70 "

This survey has been held afloat and therefore confined to an examination of the means for closing the openings in the decks and sides of the ship. No part of a special survey has been held at this time.

<u>Poop</u> 46.58	<u>Bridge</u> 126.17
$\frac{5 \times 6.75}{25.5} = 1.32 + .33 = 1.65 \text{ O.H.}$	$12.42 \times 4.64 = 58.0$
<u>45.26</u>	$16 \times 5.5 = 88.0$
	$10 \times 2.25 = 22.5$
	$\frac{168.5}{27.92} = 6.04$
	<u>120.13</u>

H. Thomson

Builder's name and yard number Russell & Co. No. 695

Names of sister ships S.S. Malakand / Russell & Co. No. 705.

Owners Thos. & Jno. Brocklebank Ltd.

Fee £ 15 : 6 : 0 Received by me



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