

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 53326

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge & Forecastle

Port of Survey

Glasgow

(Type of Superstructures.)

Date of Survey

14/15 March 1933

Ship's Name

MANGALORE

Nationality and Port of Registry

British

143638

Gross Tonnage

9751

Date of Build

1920-6

Name of Surveyor

R. B. Shepherd

Moulded Dimensions: Length

515.66

Breadth

63.62

Depth

38.31

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

23312

tons

Coefficient of fineness for use with Tables

.764

Particulars of Classification

+100A1

S.S. Ges. No. 2-28.

Depth for Freeboard (D)

Moulded depth ... 38.31

Stringer plate ... 60" .5204

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 38.35

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

 $(38.35 - 34.38) 3 = + 11.91$

(b) Where D is less than Table depth (if allowed)

(Table depth - D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B)

63.62

Standard Round of Beam = $\frac{B \times 12}{50} =$

15.27

Ship's Round of Beam =

16

Difference

.73 mm

Restricted to

.3957

Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.73}{4} (1 - .6043) = -.07$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	47.25	47.25	7'-6"		47.25
" overhang ...	2.00	1.00	+3" sh.		1.00
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	220.06	220.06	7'-11 1/2"		220.06
" overhang aft ...	2.44	1.83			1.83
" overhang forward ...					
Fore enclosed ...	41.50	41.50	7'-0"	7.25/7.50	40.12
" overhang ...			+3" sh.		
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	313.25	311.64			310.26

Standard Height of Superstructure 7.50

" " R.Q.D. /

Deduction for complete superstructure 42.00

Percentage covered $\frac{S}{L} = 60.75\%$ " $\frac{S_1}{L} = 60.43\%$ " $\frac{E}{L} = 60.17\%$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 46.29

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $42.00 \times .4629 = - 19.44$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	61.57	1	61.57	60"	60.0	1	60.00
1/4 L from A.P. ...	27.40	4	109.60	26	26.07	4	104.28
3/4 L " ...	6.77	2	13.54	6 1/2	6.52	2	13.04
Amidships ...		4				4	
3/4 L from F.P. ...	13.54	2	27.08	14	14.02	2	28.04
1/4 L " ...	54.80	4	219.20	56	56.09	4	224.36
F.P. ...	123.14	1	123.14	129	129.0	1	129.00
Total ...			554.13				558.72

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{4.59}{18} (.75 - .3037) = -.01$

If limited on account of midship superstructure.

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

Standard	Actual
61.57	61.57
27.40	26.07
6.77	6.52
13.54	13.04
27.08	28.04
54.80	56.09
123.14	129.00
554.13	558.72
	95.69%

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = Ft. 38.35

Summer freeboard = 8.81

Moulded draught (d) = 29.54

Deduction for Tropical freeboard and addition for

Winter freeboard = 4 inches = 7.38 = 7 1/2

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 20999$

Tons per inch immersion at summer load water line

T = 65.00

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

= 8.08

8"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{764 + .68}{1.36} = \frac{1.444}{1.36}$

106.84

113.43

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

	+	-
11.91		
19.44		
.01		
.07		
11.91	19.52	7.61

Summer Freeboard = 105.82

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

8' 9 3/4"

Tropical Fresh Water Line above Centre of Disc ...	
Fresh Water Line " " ...	
Tropical Line " " ...	
Winter Line below " " ...	7 1/2
Winter North Atlantic Line " " ...	

Tropical Fresh Water Freeboard ...	
Fresh Water " " ...	
Tropical " " ...	
Winter " " ...	
Winter North Atlantic " " ...	

Particulars of Scuppers and Sanitary Discharge Pipes — all sanitary discharges are led overboard above the freeboard deck & are fitted with storm valves at the ship's side.
Overboard scuppers from bridge tween decks are fitted with storm valves at the ship's side.
There are no scuppers discharging overboard from the poop spaces.

Particulars of Side Scuttles: Side scuttles in forecastle, bridge & poop sides are fitted with hinged deadlights. Side scuttles, with sills about 2 ft below freeboard deck are fitted in fore peak space, in engine room stores & in steering gear compartment, & have hinged deadlights.
All side scuttles are of substantial construction.

Particulars of Guard Rails:— Round forecastle & poop, 3'-4" high with 3 rails, stanchions spaced about 4'-6". Strongly constructed steel bulwarks at bridge sides 3'-6" high, with guard rails abreast hatchways and at after end, 3'-6" high having 3 rails, stanchions spaced about 4'-6". Strongly constructed bulwarks 4' high in fore & after wells on fl'd deck.

Particulars of Gangways, Lifelines, etc.:— Provision made for rigging lifelines in any part of the ship for the protection of the crew.

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	91.5	4'	2'-6" x 1'-4" 3'-6" x 1'-4"	1 2	11.5 ϕ	18.3
Forward Well	110.91	4'	3'-6" x 1'-4"	3	12.8 ϕ	22.18

State position of each freeing port from bridge end { After Well:— 10' 38' 87'
(F. and A. position and height above deck edge) { Forward Well:— 20'-3" 54'-6" 76'-6"
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 14" above deck
Four with 4 bar & no shutter
Two with hinged steel shutters

Additional area where sheer is less than standard.

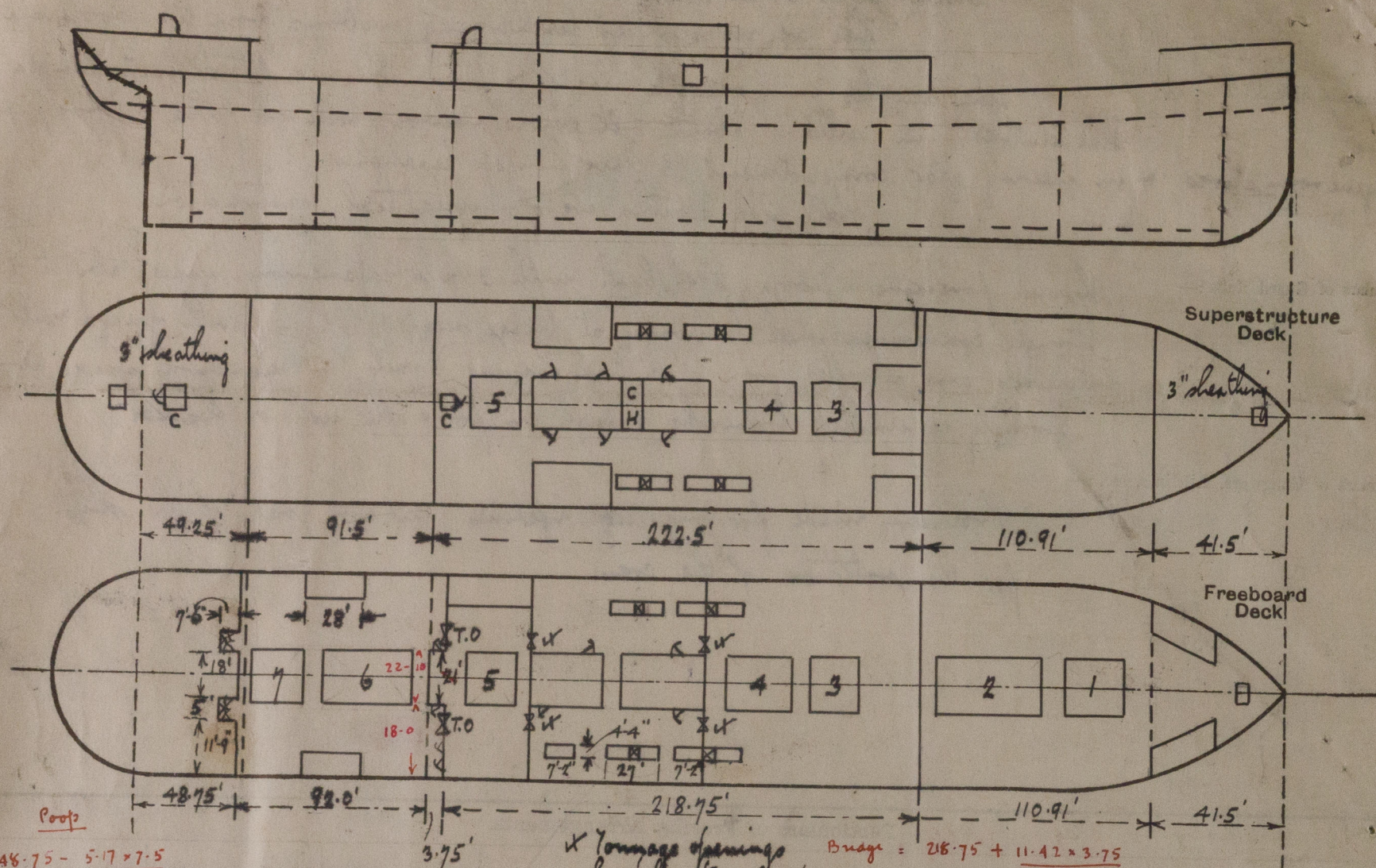
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	-	.40	7x3'2x.4604	2'-9"	none	4 @ 5'x2' 2 @ 4'-9"x2'	18"	7'-6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	-	.40	3x3x.3004	3'-6"	none	Doors 4 @ 5'x2' T.O. 2 @ 5'x5'	18"	7'-11 1/2"
Bridge, Forward Bulkhead44	.40	9x3'2x.6404	2'-6"	blts top & bot	none	-	7'-11 1/2"
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks44	.36	3x3x.3604	3'-9"	blts @ top	6 @ 5'x2'	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	-	.30	3 1/2 x 3x.3404	5'-0"	none	4 @ 5'x2'	18"	7'-11 1/2"
Deckhouses on Flush Deck Ships ...			3" fl	4'-0"				

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

Poop Bulkhead	Hinged steel doors & hinged tank doors all manipulated from both sides
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Tonnage openings closed by portable steel plates with hook bolts spaced 21" apart & also by storm boards fitted for full height of openings in riveted channels. Hinged wood doors to acc'd, manip. both sides.
Bridge, Forward Bulkhead	No openings
Forecastle Bulkhead	Open
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel doors, manipulated from both sides.
Deckhouses on Flush Deck Ships ...	

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:—



$$48.75 - 5.17 \times 7.5 = 25.91$$

$$48.75 - 1.50 = 47.25$$

$$47.25 \text{ equiv} \text{ there is no sheathing on freeboard deck in wells, nor on bridge deck.}$$

$$49.25 - 47.25 = 2.00 \text{ within}$$

* Tonnage openings

closed by storm boards

full height in riveted channels

$$\text{Bridge} = 218.75 + 11.42 \times 3.75 = 220.06$$

$$218.75 + 1.31 = 220.06 \text{ equiv}$$

$$222.5$$

$$220.06$$

$$2.44 \text{ OH.}$$

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

The ship is engaged in general trade

Timber freeboard is not required.

This survey was held afloat.

The ship is at present undergoing S.S. No 3, which will be completed at this time, - date will be notified later.

Freeboard Request, Form 9 will be forwarded later.

Displacement particulars obtained from Builders:—

Displacement at 30'-0" draft = 21226 tons, T.P.I. = 65.5

" " 31'-0" " 22018 " " 66.0

Builder's name and yard number B. Bonnell & Co. Ltd, Glasgow No. 376

Names of sister ships MATHURA - same Builders No 377

Owners Thos. & Jno. Brocklebank, Ltd.

Fee £ 17 : 0 : 0

Received by me



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