

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No.
(For London Office only.)

27243.

 Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having **POOP, BRIDGE & FORECASTLE**
Port of Survey **Balekha**

(Type of Superstructures.)

Date of Survey **1. 2. 33.**

Ship's Name

Nationality and Port of Registry

Gross Tonnage

Date of Build

S.S. "GAMBHIRA"**BRITISH - LONDON****14257****5257****1919-1**

Name of Surveyor

D. LebitMoulded Dimensions: Length **399.5**Breadth **52**Depth **31**

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

12012

tons

Coefficient of fineness for use with Tables

.768Particulars of Classification **+ 100 A.I.****S.S. Cal. No 3. 3. 31.**

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	31.00	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	52.00
Stringer plate	04	(31.04 - 26.63) 3 = 13.23		Standard Round of Beam = $\frac{B \times 12}{50}$	12.48
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13.00
$T \left(\frac{L-S}{L} \right) =$				Difference	.52
Depth for Freeboard (D) =	31.04	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right)$	$\frac{.52}{4} \times (1 - .5035) = .06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	49.25	49.25	7.95	-	49.25
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	112.66	112.66	7.95	-	112.66
" overhang aft					
" overhang forward					
Fore enclosed	39.25	39.25	7.95	-	39.25
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	201.16	201.16			201.16

Standard Height of Superstructure **7-6**

R.Q.D.

Deduction for complete superstructure **41.96**Percentage covered $\frac{S}{L} = 50.35$ $\frac{S_1}{L} = 50.35$ $\frac{E}{L} = 50.35$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. **36.35**

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $41.96 \times .3635 = 15.25$

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	49.95	1	49.95	57.60	60.00	1	60.00
$\frac{1}{4}$ L from A.P.	22.23	4	88.92	28.27	27.65	4	110.60
$\frac{3}{8}$ L	5.49	2	10.98	8.69	6.91	2	13.82
Amidships		4		0		4	
$\frac{3}{8}$ L from F.P.	10.99	2	21.98	17.13	13.43	2	26.86
$\frac{1}{4}$ L	44.45	4	177.80	53.53	53.72	4	214.88
F.P.	99.90	1	99.90	118.12	120.00	1	120.00
Total			449.53				546.16

Mean actual sheer aft = **Excess**

Mean standard sheer aft

Mean actual sheer forward = **Excess**

Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

aft of

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{96.63}{18} \left(.75 - .2517 \right) = -2.67$

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 = **31.04**Summer freeboard = **5.94**Moulded draught (d) = **25.10**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.22 = 6 $\frac{1}{4}$**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11561$

Tons per inch immersion at summer load water line

 $T = 4125$ Deduction = $\frac{\Delta}{40T}$ inches**= 7.01****= 7"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.768 + .680}{1.36} = \frac{1.448}{1.36}$ Depth Correction ... **13.23**Deduction for superstructures ... **15.25**Sheer correction ... **2.67**Round of Beam correction ... **.06**

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

13.23 17.98 - 4.75Summer Freeboard = **71.22**

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

Tropical Fresh Water Line above Centre of Disc ... **13 $\frac{1}{4}$** Fresh Water Line " " ... **7**Tropical Line " " ... **6 $\frac{1}{4}$** Winter Line below " " ... **6 $\frac{1}{4}$**

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ... **4-10**Fresh Water " " ... **5-4 $\frac{1}{4}$** Tropical " " ... **5-5**Winter " " ... **6-5 $\frac{1}{2}$**

Winter North Atlantic " " ...

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway				No. 1.	No. 2.	No. 3.	No. 4	No. 5.				
Dimensions of Hatchway				32'-3" x 20'-0"	34'-8" x 20'-0"	16'-10" x 18'-0"	34'-6" x 20'-0"	30'-0" x 20'-0"				
COAMINGS	{	Height above Deck	...	28"					No. 3 Hatch in bridge space - 10 x 3 1/2 b.f. spanning - other particulars as for bridge deck -			
		Thickness	{ Sides	5"	- do -	- do -	- do -	- do -				
		Stiffeners	...	10 x 4 b.f.								
		Brackets, Stays	...	2" dia.								
HATCH BEAMS	{	Number	...	6.	6	1.	6.	5.	Two timber hatches on port & starboard side of machinery casing in bridge space 8'-0" x 4'-0" - 9 x 3 1/2 b.f. Coamings - 3" wide hatch beams - 3" wide bearing surface. Spacing of cleats 18" inches - 2. tarpaulins - Two hatches as above on bridge deck except coamings are 30" inches high			
		Spacing	...	4'-6"	5'-0"	5'-5"	5'-0"	4'-10"				
		Scantling and Sketch	...	4 x 3 x 14 angles as in 19 x 36 plate	as in No. 1.	4 x 3 x 14 angles as in 18 x 36 plate	as in No. 1.	as in No. 1.				
		Bearing Surface	...	3 1/2"		3 1/2"						
FORE AND AFTERS	{	Number	...									
		Spacing	...									
		Unsupported Lengths	...									
		Scantling* and Sketch	...									
HATCH COVERS	{	Material	...	PINE								
		Thickness	...	3"	- do -	- do -	- do -	- do -				
		How fitted	...	F&A								
		Bearing Surface	...	4"								
Spacing of Cleats				...	2'-0"							
Number of Tarpaulins				...	3.	- do -	- do -	- do -	- do -			

*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?

Particulars of fiddley, funnel and ventilator coatings :-

Particulars of riddle, funnel and ventilator coverings:-

Single funnel casing - fiddle tops closed by patings - winged steel stem covers - two winged
Steel cones to fiddle on bridge deck - in bridge space secured by bolts & handles -

2 - 30" inch diameter ventilators to Stokeshold - Cunnings 5'-0" high.
2 - 30 " " " " " " 5'-0" "
2 - 22 " " " " " " 5'-0" "

Particulars of Flush Bunker Scuttles:—

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Particulars of Companionways :—

- 7 -

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

18" inch diameter ventilators in holes & kiosks - coamings 3'-0" high - fitted with wooden plugs & canvas covers.

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

3 1/2 inch diameter air pipes - Swan-neck N.I. - 18 inches high fitted in way of bulwarks -
wooden plugs supplied for closing purposes -

Particulars of Gangway Cargo and Coaling Ports:—

One cargo door in port starboard sides of bridge space 2'8" x 2'8" secured by strongbacks -

Particulars of Scuppers and Sanitary Discharge Pipes:

2" inch diameter scuppers fitted with shot steel bands - drawing forward dk
All sanitary discharges fitted with storm valves -

Particulars of Side Scuttles:-

10" inch diameter side scuttles fitted with hinged P.I. covers -

Particulars of Guard Rails:-

Guard rails on poop, bridge & Forecastle - 3'-6" high -

Particulars of Gangways, Lifelines, etc.:-

Lifelines can be rigged for safety of 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	100'-6"	3'-7"	4'-6" x 1'-6"	3.	20.25	20.
Forward Well	99'-6"	3'-7"	4'-6" x 1'-6"	3.	20.25	20.

State position of each freeing port } After Well: BRIDGE. 18'-6" 35'-6" 31'-0" 15'-6" POOP.
(R. and A. position and height above deck edge) } Forward Well: FORECASTLE 29'-0" 31'-6" 29'-6" 11'-6" BRIDGE.
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. Open work ports fitted with double bars - 15 inches above deck.

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	3'-6" x 7/16"	3/8	6 x 3 x 3/8	30"	✓	2'-0" x 5'-0"	18"	8'-0"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	4'-6" x 1/4"	1/4"	3 1/2 x 3 1/2 x 3/8	42"	✓	3'-0" x 5'-0"	18"	8'-0"
Bridge, Forward Bulkhead	3'-0" x 7/16"	3/8	9 x 3 1/2 b.f.	28"	18" back 1/2	3'-0" x 6'-0"	12"	8'-0"
Forecastle Bulkhead	3'-6" x 1/4"	1/4"	STEEL bulkheads			4'-6" x 5'-0"	18"	8'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks								
Exposed Machinery Casings on Super-structure Decks	1'-8" x 3/8	5/16	3 1/2 x 3 1/2 x 3/8	27"	✓	2'-0" x 4'-6"	18"	8'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18 x 7/16	1/4	3 x 3 x 3/8	27		2'-0" x 4'-8"	18	8'-0"
Deckhouses on Flush Deck Ships								

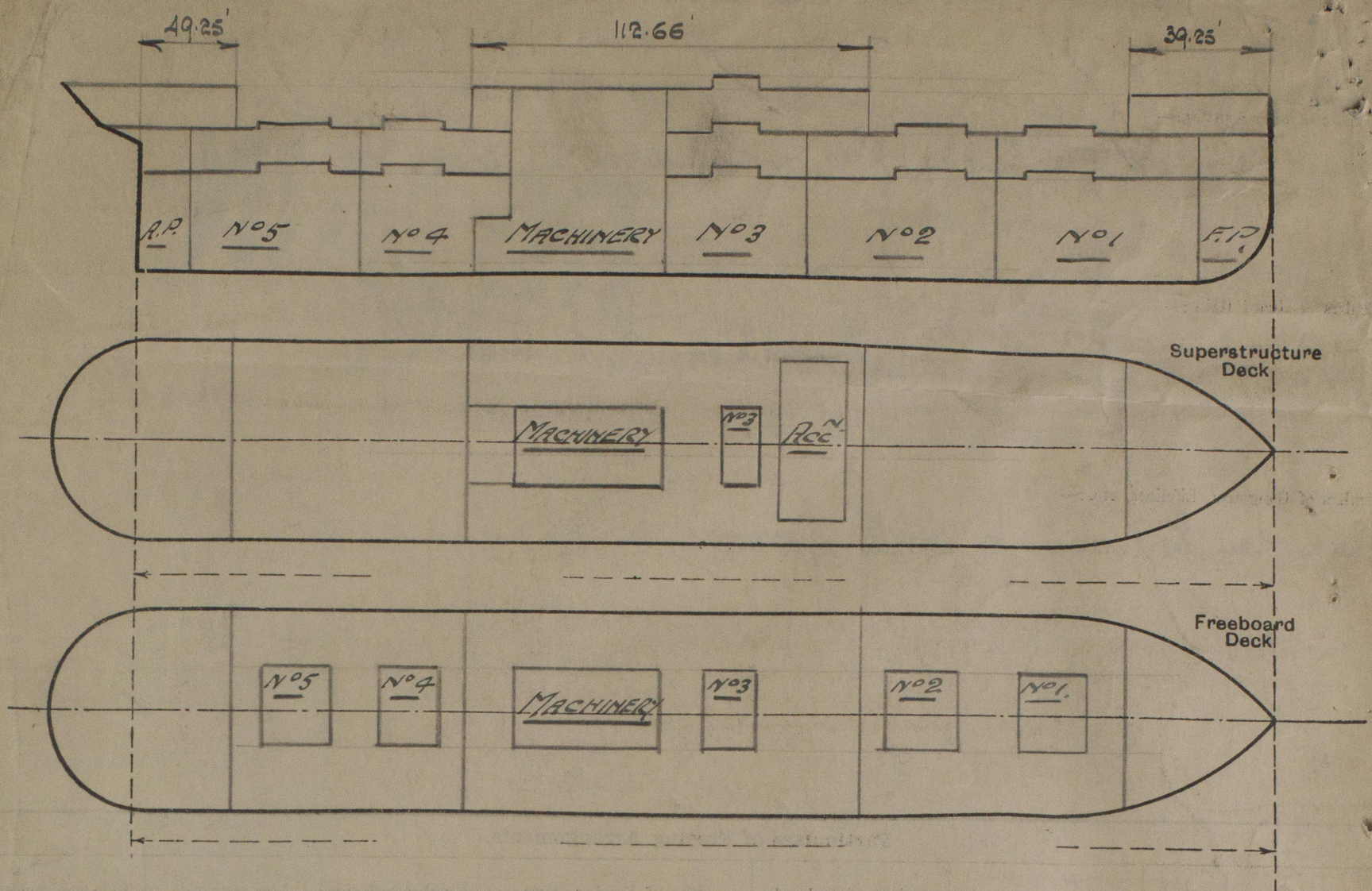
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	Two hinged steel doors to crew quarters secured by locks & handles -
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	3" storm bands in ^{ruled} channels full height.
Bridge, Forward Bulkhead	Hinged steel doors secured by double cleats operated from both sides.
Forecastle Bulkhead	3" storm bands in ^{ruled} channels full height -
Exposed Machinery Casings on Free-board or Raised Quarter Decks	
Exposed Machinery Casings on Super-structure Decks	E.R. casing fitted with two hinged steel doors on bridge deck - one hinged steel door to E.R. in after bridge bulkhead - all doors secured by handles & locks. Steel skylight hand operated -
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 shewn on the following sketches:—



Freeboard deck is not sheathed.

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

Particulars taken when vessel was in drydock for Condition Survey.

Builder's name and yard number

Names of sister ships

Owners British India Steam Nav Co.

Fee Rs. 610/-

Received by me

J. Perbski