

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

24 OCT 1932

Index. No.

24627

(For London Office only.)

No. 467.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having POOP, BRIDGE & FORECASTLE -

Port of Survey CALCUTTA.

(Type of Superstructures.)

Date of Survey 20. 9. 32.

Ship's Name S.S. "TANFIELD"  
Nationality and Port of Registry BRITISH - GLASGOW.  
Official Number 137816.  
Gross Tonnage 4538  
Date of Build 1916-6.

Name of Surveyor D. Reisk

Moulded Dimensions: Length 385.2 Breadth 52.66 Depth 28.75  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 10810 tons  
Coefficient of fineness for use with Tables .763

Particulars of Classification + 100 A.I.  
S.S. Cal No. 3-9-28

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	28.75	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	52.66
Stringer plate	.04	(28.79 - 25.68) 2.963 = 9.21		Standard Round of Beam = $\frac{B \times 12}{50}$	12.64
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	12.50
Depth for Freeboard (D) =	28.79	If restricted by superstructures		Difference	.14
				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.14}{4} \times .6158 = +.02$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S)	Height	Height Correction	Effective Length (E)	
Poop enclosed	26.33	26.33	7.21	7.21	25.83	Standard Height of Superstructure 7.35
" overhang				7.35		" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure 41.01
" overhang						Percentage covered $\frac{S}{L} = 38.42$
Bridge enclosed	91.00	91.00	7.00	7.00	86.66	" " $\frac{S_1}{L} = 38.42$
" overhang aft				7.35		" " $\frac{E}{L} = 36.79$
" overhang forward						Percentage from Table, Line A.
Fore enclosed	30.67	30.67	7.00	7.00	29.21	(corrected for absence of forecastle (if required))
" overhang				7.35		Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required)) 24.77
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = - 10.16
" forward						
Total	148.00	148.00			141.70	

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	48.52	1		48.52	67.00	69.00	1		69.00	Mean actual sheer aft = Excess
1/4 L from A.P.	21.59	4		86.36	32.00	30.02	4		120.08	Mean actual sheer forward = Excess
3/4 L "	5.33	2		10.66	10.00	7.50	2		15.00	Mean standard sheer forward
Amidships		4			0.00		4			Length of enclosed superstructure forward of amidships = .095
1/4 L from F.P.	10.67	2		21.34	13.00	11.65	2		23.30	" " aft of " = .141
3/4 L "	43.18	4		172.72	46.00	46.61	4		186.44	
F.P.	97.04	1		97.04	104.00	105.00	1		105.00	
Total				436.64					518.82	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{82.18}{18} \left( \frac{75-1921}{2} \right) = -2.55$

If limited on account of midship superstructure.  $2.55 \times \frac{195}{200} = -2.49$  If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{763+68}{136} = 1.443$	66.96
Depth to Freeboard Deck = 28.79	$\Delta =$	$\frac{1.443}{1.36} = 1.061$	71.04
Summer freeboard = 5.62	Tons per inch immersion at summer load water line	Depth Correction 9.21	
Moulded draught (d) = 23.17	T =	Deduction for superstructures 10.16	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.79	Deduction = $\frac{\Delta}{40T}$ inches	Sheer correction 2.49	
Addition for Winter North Atlantic Freeboard (if required) =		Round of Beam correction .02	
		Correction for Thickness of Deck amidships	
		Other corrections, scantlings, etc.	
		9.21 12.65 - 3.44	
		Summer Freeboard = 67.602	

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

Tropical Fresh Water Line above Centre of Disc		Tropical Fresh Water Freeboard	
Fresh Water Line		Fresh Water	
Tropical Line		Tropical	
Winter Line below		Winter	
Winter North Atlantic Line		Winter North Atlantic	



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...	...
	Scantling* and Sketch	...	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...	...
		...	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...	...
*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 coamings:—

Single funnel casing - fiddley tops closed by hinged steel storm covers - gratings - two riveted steel entrance doors to fiddley on bridge superstructure deck secured by handes & keys -  
 Two 2'-6" diameter ventilators to stokehold - coamings 4'-0" high -  
 Three 1'-9" mushroom ventilators to E.R. - 1'-9" diameter 2'-6" high -

Particulars of Flush Bunker Scuttles:—

- Nil -

Particulars of Companionways:—

- Nil -

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

18" inch diameter ventilators to holds - coamings 3'-0" high - closed by wooden plugs and canvas covers -

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

2 1/2" inch diameter air pipes - flush with deck - fitted with brass caps -

Particulars of Gangway Cargo and Coaling Ports:—

- Nil -



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers nil. All sanitary discharges fitted with steam valves.

Particulars of Side Scuttles:—

9" inch diameter side scuttles fitted with hinged C.I. covers.

Particulars of Guard Rails:—

Guard rails on forecastle - poop - 3'-0" 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 ... ..	125'-6"	3'-10"	3'-6" x 2'-0"	4.	28.	25.1
Forward Well ... ..	110'-9" 111.7	3'-10"	3'-6" x 2'-0"	4.	28.	22.3

Position of each freeing port (P) and A. position and height above deck edge) } After Well: F.C.I.E. 14'-6" 32'-6" 32' 32'-6" 14' BRIDGE  
Forward Well: BRIDGE 12'-3" 32'-6" 26' 35' 14' POOP.

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.

Washports fitted with five vertical bars - 1'-3" above deck.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

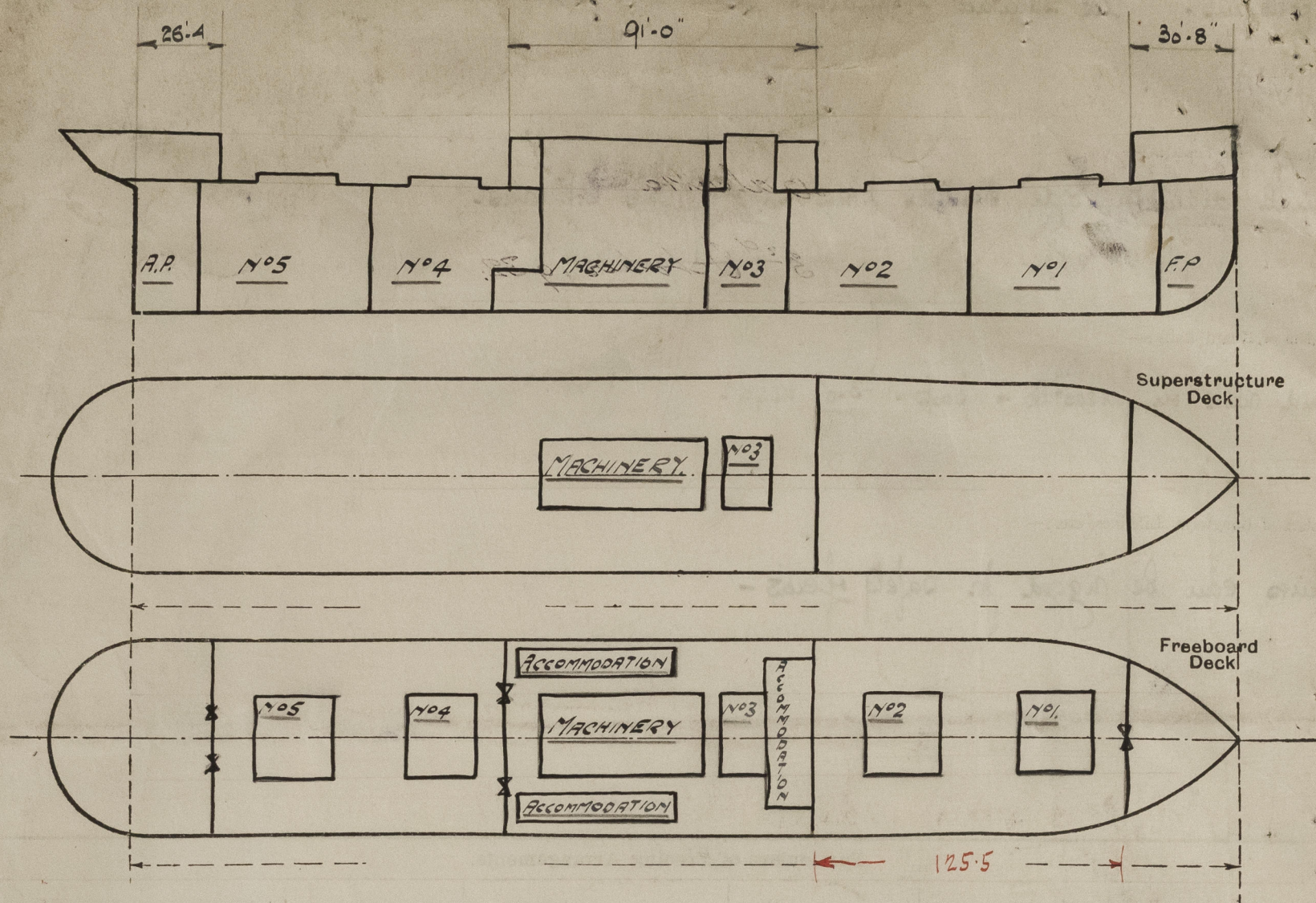
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	2'-0" x 7/16	3/8	6 x 3 x 3/8 B.A.	30"	✓	2'-0" x 4'-6"	24"	9'-0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	2'-0" x 3/8	3/8	3 1/2 x 3 x 3/8	4'-0"	✓	3'-3" x 4'-9"	24"	9'-0"
Bridge, Forward Bulkhead ... ..	2'-0" x 5/16	3/8	8 x 3 x 1/2 B.A.	30"	15" x 15" back to back	NIL		9'-0"
Forecastle Bulkhead ... ..	2'-0" x 5/16	1/4	3 1/2 x 3 x 3/8	3'-3"	✓	4'-9" x 4'-0"	24"	9'-0"
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks ... ..	36	30	4 x 3 x 40	3'-4"	-			
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	18" x 3/8	1/4	4 x 3 x 3/8	4'-0"	✓	2'-0" x 4'-6"	18"	9'-0"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ... ..	Two steel hinged doors to crew quarters secured by handles & locks.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ... ..	3" inch storm bars in channels full height.
Bridge, Forward Bulkhead ... ..	No openings - completely plated.
Forecastle Bulkhead ... ..	One opening on centre line - fitted with 3" inch storm bars in channels full height.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks ... ..	Hinged steel doors secured by handles & locks.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	P.R. casing enclosed in accommodation. Two hinged steel entrance doors to P.R. in bridge accommodation & one in after bridge bulkhead - secured by handles & locks.
Deckhouses on Flush Deck Ships ...	Steel skylight hand operated.



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 during S.S. N°1.

OM 17

Builder's name and yard number

Names of sister ships

Owners

British India Steam Co.

Fee

Rs 595/-

Received by me

D. Desai



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