

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

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

Port of Survey **BALUCHA**

Date of Survey **20.3.33**

Name of Surveyor **S. S. SIRDHANA**

Ship's Name **S.S. "SIRDHANA"**

Nationality and Port of Registry **BRITISH - LONDON**

Official Number **148712**

Gross Tonnage **1445**

Date of Build **1925.12**

Moulded Dimensions: Length **435.6** Breadth **57.5** Depth **36.6**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **17380** tons

Coefficient of fineness for use with Tables **784**

Particulars of Classification **+1008.1 with freeboard**

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 36.50	(a) Where D is greater than Table depth (D - Table depth) R = (36.66 - 29.04) 3.00 = + 22.86"	Moulded Breadth (B) 57.50
Stringer plate 0.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{57.50 \times 12}{50} = \mathbf{13.80"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .21 \times .5688 = \mathbf{.12}$	If restricted by superstructures ✓	Ship's Round of Beam = 9.00
Depth for Freeboard (D) = 36.66		Difference 4.80 deficient
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{4.80}{4} \times \left(1 - \frac{57.50}{144.5} \right) = \mathbf{4.80 \times .6668 = + .80"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	44.37	44.37	7'-0"	7.21	42.65
... overhang			+2 1/2"		
R.Q.D. enclosed					
... overhang					
Bridge enclosed	94.61	59.87	7'-8"		59.87
... overhang aft					
... overhang forward					
Forecastle enclosed	48.87	40.92	7'-0"	7.50	38.19
... overhang					
Trunk aft					
... forward					
Tonnage opening aft					
... forward					
Total	187.85	145.16			140.71

Standard Height of Superstructure **7'-6"**

" " R.Q.D. **✓**

Deduction for complete superstructure **42.00"**

Percentage covered $\frac{S}{L} = \frac{145.16}{187.85} = \mathbf{43.12\%}$

" " $\frac{S_1}{L} = \frac{59.87}{187.85} = \mathbf{33.32\%}$

" " $\frac{E}{L} = \frac{38.19}{187.85} = \mathbf{38.19\%}$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) **16.95%**

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) **20.95%**

Interpolation for bridge less than 2L (if required) **16.95 + (38.19 - 16.95) \times \frac{4}{87.12} = 17.70**

Deduction = **42.00 \times .197 = - 8.27"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	53.56	1	53.56	38.38	38.62	38.62	1	38.62	38.62
1/4 L from A.P.	23.83	4	95.32	17.14	14.10	14.10	4	56.40	56.40
1/2 L "	5.89	2	11.78	5.20	2.00	2.00	2	4.00	4.00
Amidships	✓	4	✓	0.00	✓	✓	4	✓	✓
3/4 L from F.P.	11.78	2	23.56	13.11	11.90	11.90	2	23.80	23.80
1/4 L "	47.66	4	190.64	42.40	40.80	40.80	4	163.20	163.20
F.P.	107.12	1	107.12	92.93	93.00	93.00	1	93.00	93.00
Total			481.98					377.02	

Mean actual sheer aft = **Deficient**

Mean standard sheer aft = **Deficient**

Mean actual sheer forward = **Deficient**

Mean standard sheer forward = **Deficient**

Length of enclosed superstructure forward of amidships = **Sheer deficient**

" " aft of " = **Sheer deficient**

Sheer forward Standard $\frac{35.34}{142.98} = \mathbf{24.72\%}$

Actual $\frac{35.70}{142.40} = \mathbf{25.10\%}$

Standard $\frac{107.12}{285.44} = \mathbf{37.53\%}$

Actual $\frac{93.00}{251.10} = \mathbf{37.03\%}$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{102.96}{18} \left(\frac{75 - 2156}{144.5} \right) = \mathbf{+ 3.06"$

If limited on account of midship superstructure. **✓**

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 $\frac{784 + .68}{1.36} = \mathbf{1464}$
Depth to Freeboard Deck = 36.75	$\Delta =$	Depth Correction 22.86
Summer freeboard = 7.89	Tons per inch immersion at summer load water line	Deduction for superstructures 8.27
Moulded draught (d) = 26.86	T =	Sheer correction 3.06
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.71 = 6 3/4"	Deduction = $\frac{\Delta}{40 T}$ inches = 7"	Round of Beam correction80
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships 1.06
		Other corrections, scantlings, etc. 10.27
		38.05 8.27 + 29.78
		Summer Freeboard = 118.75

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

Tropical Fresh Water Line above Centre of Disc 13 3/4"	Tropical Fresh Water Freeboard 8'-9"
Fresh Water Line " " 7"	Fresh Water " " 9'-3 3/4"
Tropical Line " " 6 3/4"	Tropical " " 9'-4"
Winter Line below " " 6 3/4"	Winter " " 10'-2 3/4"
Winter North Atlantic Line " " ✓	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.					
Dimensions of Hatchway			28'6"x16'0"	26'3"x16'0"	21'0"x16'0"	21'0"x16'0"					
COAMINGS	{	Height above Deck	24.								
		Thickness { Sides	44.								
		{ Ends	44.								
		Stiffeners	7x3 3/8 R.	- do -	- do -	- do -					
HATCH BEAMS	{	Brackets, Stays									
		Number	4.	4.	3.	3.					
		Spacing	4'6"	5'3"	4'3"	4'3"					
		Scantling and Sketch	3 1/2 x 3 x 42 2 x 9 x 83. 14 x 34 plate. 6 1/2 x 3 x 56 2 x 9 x 83. 3 1/2.	- do -	- do -	- do -					
		Bearing Surface									
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch									
		Bearing Surface									
HATCH COVERS	{	Material	PINE								
		Thickness	3"								
		How fitted	F&A	- do -	- do -	- do -					
		Bearing Surface	3"								
Spacing of Cleats			24"								
Number of Tarpaulins			3.	- 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 fiddle, funnel and ventilator											

Particulars of fiddley, funnel and ventilator coamings:

Particulars of fiddle, funnel and ventilator casings:

Douglas funnel casing - fiddled top closed by patings & lined steel storm covers - one ringed steel door to
fiddled on port starboard side of bridge space - secured by bolts & hands. Fiddled machinery casing on port
deck 7'-0" high.

2	-	3'-6"	diameter ventilators to stockhold	-	Cummings	4'-0" high.
4	-	2'-0"	"	"	E.R.	"
1	-	2'-0"	"	"	"	6'-0" "
						3'-0" "

Particulars of Flush Bunker Scuttles:—

- 1/2 -

Particulars of Companionways:—

[illegible]

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

12", 20" - 27" inch diameter ventilators to hold - fitted with wooden plugs & canvas covers -
 coaming 3'-0" high except in way of deck erections where they are securely fastened to
 steel base -

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

4½" diameter air pipes, Swan neck N.I. fitted in way of Bulwarks - 3'-0" high - wooden plugs supplied for closing purposes -

Particulars of Gangway Cargo and Coaling Ports:—

Five cargo doors on port starboard side of upper tween deck. 3'-0" x 3'-0" secured by strongbacks.
2'-6" x 2'-6"

8 W. T. Construction

Particulars of Scuppers and Sanitary Discharge Pipes:—

5 1/2" x 4" Scuppers fitted with shot steel heads through tween decks.
All sanitary discharges fitted with storm valves.

Particulars of Side Scuttles:—

12" diameter side scuttles fitted with Ringed C.I. covers.

Particulars of Guard Rails:—

Guard rails on poop, Bridge forecastle.

Particulars of Gangways, Lifelines, etc.:—

Lifelines can be rigged for safety of crew.

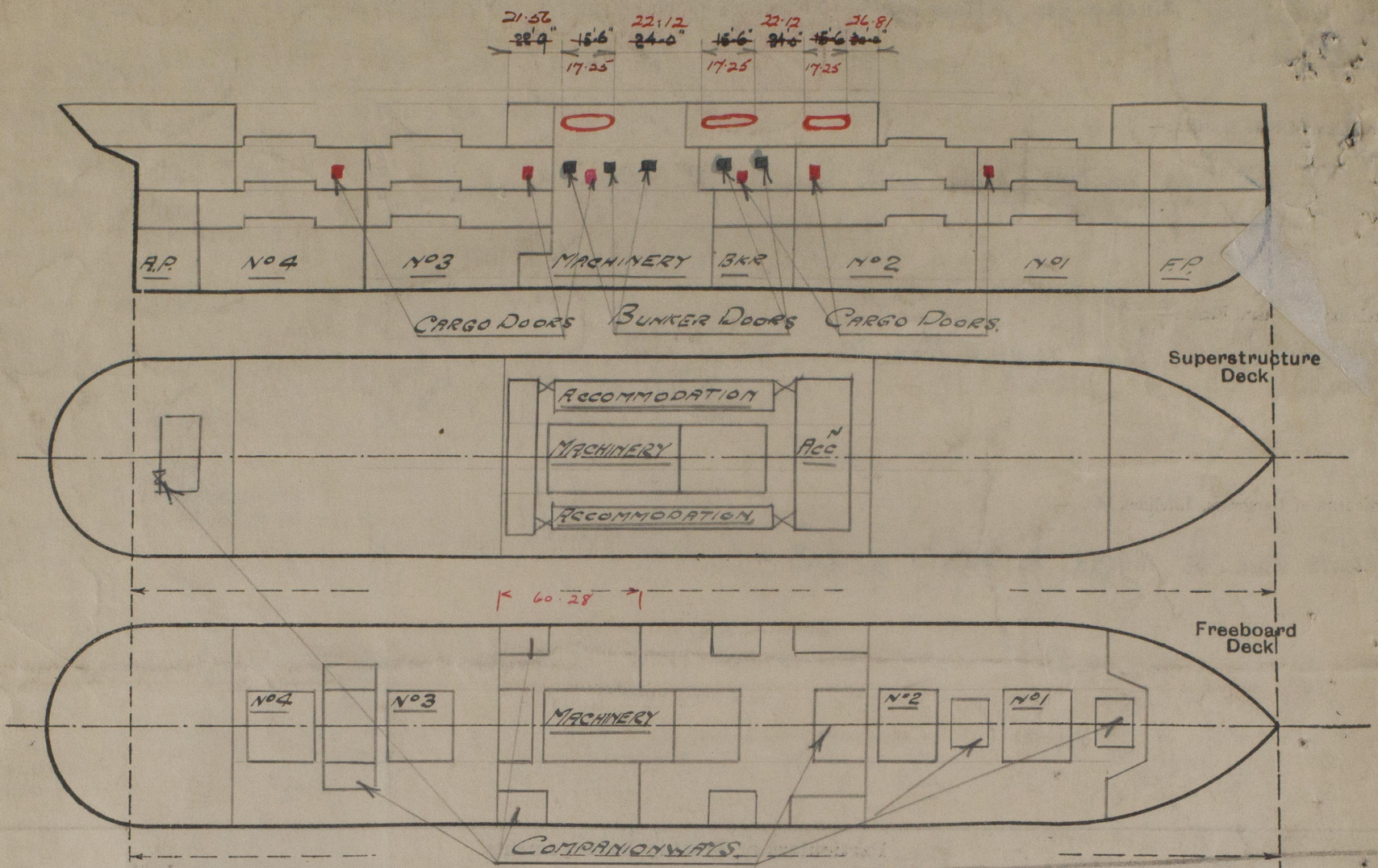
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	90.	4'-0"	4'-0" x 2'-0"	4.	32.	18 1/2
Forward Well	107.	4'-0"	4'-0" x 2'-0"	5	40.	21 1/2
State position of each freeing port } After Well: BRIDGE. 10'-6" 17'-6" 23'-6" 29'-0" 11'-6" POOP. (F. and A. position and height above deck edge) } Forward Well: F.C.L.E. 16'-0" 23'-0" 24'-6" 25'-0" 14'-6" 4'-0" 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. Washboards fitted with double bars & flap - 12" 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 5/16	5/16	4 x 3 1/2 x 1/2	2'-6"	✓	2'-6" x 4'-10"	18"	7'-0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	3'-6" x 1/4	1/4	3 x 3 x 3/8	2'-9"	✓	3'-2" x 5'-3"	18	7'-8"
Bridge, Forward Bulkhead	3'-6" x 1/2	3/8	10 x 3 1/2 B.R.	2'-6"	✓	4'-1" x 4'-10"	18	7'-8"
Forecastle Bulkhead	4'-0" x 5/16	1/4	3 x 2 1/2 x 3/8	3'-0"	✓	— open —	—	7'-0"
Trunk, Aft Intermediate Bulkhead	3'-6" x 1/4	1/4	4 1/2 x 3 x 5/8	2'-6"	✓	3'-1" x 6'-2"	3"	7'-8"
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3'-6" x 1/4	1/4	4 x 3 x 3/8	3'-9"	✓	2'-2" x 5'-6"	12"	7'-8"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	One entrance to crew quarters fitted with Ringed steel door secured by lock handle.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	3" storm bars in channels full height.
Bridge, Forward Bulkhead	Double Ringed steel doors secured by double plates operated from both sides - strongback also fitted.
Forecastle Bulkhead	Open - no closing appliances.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	Intermediate Bulkhead in Bridge Space at mid-length - openings closed by roller steel fireproof doors.
Exposed Machinery Casings on Super-structure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	E.R. casing in Bridge Space & protected by accommodation - one Ringed steel entrance door to E.R. on starboard side of Bridge Space - one teakwood door through engineers quarters - both doors secured by locks & handles - steel skylight hand operated.
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:—



Freeboard deck is sheathed.

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

Bridge	Mean Cover	Equal Breadth
(A) 28.81 x .75.		21.61
(B) 22.12 x .50		11.06
(C) 21.47 x .75		16.10
OH for .65 x .50		32
(D) 21.56 x .50		10.78
94.61		59.84

Particulars taken when vessel was in dock as per S.S. No. 2.

PASSENGER ENDORSEMENT ON PRESENT CERTIFICATE.

When more than 12 passengers are being carried, and any are accommodated below the Shelter deck, the foregoing maximum loadlines shall not apply and the maximum loadline in salt water shall then be at the time which is marked (1) 1 ft. 1 in. below the centre of the disc, when the upper tween decks forward and aft are occupied by passengers. (2) 2 ft. 7½ ins. below the centre of the disc when the upper tween decks forward and aft and No.2 lower tween deck are occupied by passengers.

Builder's name and yard number.

Names of sister ships.

Owner British India Steam Nav Co.

Fee Rs 690/-

Received by me

[Signature]



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