

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

having

Computation of Freeboard for Steamer, Sailing Ship, Tug

Shelter deck with side openings  
forward and aft.

(Type of Superstructures.)

Port of Survey Bombay.Date of Survey November 25<sup>th</sup> 29<sup>th</sup> 1932.Name of Surveyor H.P. SouthwellParticulars of Classification +100 A1.  
S.S. Dom. No. 1-29.

Ship's Name

Nationality and Port of

Registry

Official Number

Gross Tonnage

Date of Build

Moulded Dimensions: Length

349

Breadth

47.75

Depth

25.5

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

7.825

tons

Coefficient of fineness for use with Tables

.758

Depth for Freeboard (D)

Moulded depth ... .. 25.5

Stringer plate ... .. .03

Sheathing on exposed deck

 $T \left( \frac{L-S}{L} \right) = .21 \times .1137 = .02$ 

Depth for Freeboard (D) = 25.55

Depth correction

(a) Where D is greater than Table depth

 $(D - \text{Table depth}) R = (25.55 - 23.27) 2.685$   
 $= + 6.12$ 

(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) 47.75

Standard Round of Beam =  $\frac{B \times 12}{50} = 11.46$ 

Ship's Round of Beam = 12.5

Difference = +1.04

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.04}{4} \times .1672 = .043$ 

## DEDUCTION FOR SUPERSTRUCTURES.

|                         | Mean<br>Covered<br>Length (S) | Equivalent<br>Enclosed<br>Length (S <sub>1</sub> ) | Height | Height<br>Correction | Effective<br>Length (E) |
|-------------------------|-------------------------------|--|--------|----------------------|-------------------------|
| Pop enclosed ...        | 31.75                         | 31.75  | 7.5    |                      | 31.75                   |
| " overhang ...          | 15.6                          | 7.75   |        |                      | 7.75                    |
| R.Q.D. enclosed ...     |                               |  |        |                      |                         |
| " overhang ...          |                               |  |        |                      |                         |
| Bridge enclosed ...     | 204.0                         | 204.0  | 7.5    |                      | 204.0                   |
| " overhang aft ...      | 5.8                           | 4.38   |        |                      | 4.38                    |
| " overhang forward ...  | 3.25                          | 1.62   |        |                      | 1.62                    |
| Fore enclosed ...       | 19.25                         | 19.25  | 7.5    |                      | 19.25                   |
| " overhang ...          | 18.25                         | 22.3   |        |                      | 22.3                    |
| Trunk aft ...           |                               |  |        |                      |                         |
| " forward ...           |                               |  |        |                      |                         |
| Tonnage opening aft ... | 20.75                         |  |        |                      |                         |
| " forward ...           | 19.25                         |  |        |                      |                         |
| Total ...               | 349.4                         | 291.05   |        |                      | 291.05                  |

Standard Height of Superstructure

84" 6.99'

R.Q.D. ✓

Deduction for complete superstructure 38.6"

Percentage covered  $\frac{S}{L} = 88.63\%$  $\frac{S_1}{L} = 83.28\%$  $\frac{E}{L} = 83.28\%$ 

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

(corrected for absence of forecastle (if required)) 79.37%

Interpolation for bridge less than 2L (if required)

Deduction =  $38.60 \times .7937 = 30.64$ 

## SHEER CORRECTION.

Standard mean shear = 22.45.

| Station                       | Standard<br>Ordinate | S<br>M | Product | Actual<br>Ordinate | Effective<br>Ordinate | S<br>M | Product |
|-------------------------------|----------------------|--------|---------|--------------------|-----------------------|--------|---------|
| A.P. ...                      | 44.9                 | 1      | 44.9    | 39.0               | 38.0                  | 1      | 39.0    |
| $\frac{1}{4}$ L from A.P. ... | 19.98                | 4      | 79.92   | 15.0               | 15.0                  | 4      | 60.0    |
| $\frac{2}{4}$ L " ...         | 4.94                 | 2      | 9.88    | 3.5                | 3.5                   | 2      | 7.0     |
| Amidships ...                 |                      | 4      |         |                    |                       | 4      |         |
| $\frac{3}{4}$ L from F.P. ... | 9.88                 | 2      | 19.76   | 6.5                | 6.5                   | 2      | 13.0    |
| $\frac{1}{4}$ L " ...         | 39.96                | 4      | 159.84  | 31.0               | 33.0                  | 4      | 132.0   |
| F.P. ...                      | 89.8                 | 1      | 89.8    | 70.5               | 71.0                  | 1      | 71.0    |
| Total ...                     |                      | 18     | 404.1   |                    |                       | 18     | 313.5   |

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{72.44}{18} = 4.02$  $\left( \frac{75-S}{2L} \right) = \frac{75-44.31}{2 \times 349} = +1.24$ 

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 = 25.53

Summer freeboard = 3.00

Moulded draught (d) = 22.53

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 5.63 = 5.34

Addition for Winter North Atlantic Freeboard (if

required = ✓

Deduction for Fresh Water.

Displacement in salt water at

summer load water line

 $\Delta = 8166$ 

Tons per inch immersion at

summer load water line

T = 33.5

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

= 6.09" = 6"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

654.758

1.36

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

+ -

6.12 -

- 30.64

1.24 -

- .02

- .24

- ✓

7.36 30.72 - 23.54

Summer Freeboard = 35.88 91

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line " " ...

Tropical Line " " ...

Winter Line below " " ...

Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

RECEIVED 15 MAY 1933



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECK                             |                      |     |     |     |  |                |           |          |                          |                          |      |
|--|----------------------|-----|-----|-----|--|----------------|-----------|----------|--------------------------|--------------------------|------|
| upper deck   |                      |     |     |     | Shelter deck.  |                |           |          | Bridge deck              | Bunter hatch             |      |
| Description of Hatchway  | ...                  | ... | ... | ... | Nº1.   | 2 & 4.         | 5         | 3        | Shelter deck             | Bunter hatch             |      |
| Dimensions of Hatchway   | ...                  | ... | ... | ... | Nº1. 18x14   | 2 & 4. 19-8x14 | 5 17-3x14 | 3 7-5x14 | Shelter deck 6-9" x 5-9" | Bunter hatch 5-9" x 3-9" |      |
| COAMINGS   | Height above Deck    | ... | ... | ... | 24"  | 9"             | 9"        | 9"       | 30"                      | 30"                      |      |
|  | Thickness            | ... | ... | ... | 4-5"   | 9"x3-5"        | 9"x3-5"   | 4-5"     | 4-5"                     | 4-5"                     |      |
|  | Sides                | ... | ... | ... | None   | None           | None      | None     | 7"x3"                    | 8"x5"                    |      |
|  | Ends                 | ... | ... | ... | None   | None           | None      | None     | 2" dia                   | 2" dia                   |      |
| HATCH BEAMS  | Number               | ... | ... | ... | 3  | 3              | 1         | 3        | 3                        | 3                        |      |
|  | Spacing              | ... | ... | ... | 54"  | 59"            | 44 1/2"   | 52"      | 54"                      | 59"                      |      |
|  | Scantling and Sketch | ... | ... | ... | 3" x 3" x 3-5"   | Same as Nº1.   |           |          |                          | 1 1/2" x 3-5"            | None |
|  | Bearing Surface      | ... | ... | ... | 3"   | 3"             | 3"        | 3"       | 3"                       | 3"                       |      |
| FORE AND AFTERS  | Number               | ... | ... | ... | Fireproof hatch - 4' x 3' - 9' x 3' x 5' 6" br. coaming.   |                |           |          |                          | Wood cover.              |      |
|  | Spacing              | ... | ... | ... | 3" edge bars. Cleats spaced 16"  |                |           |          |                          |                          |      |
|  | Unsupported Lengths  | ... | ... | ... | All the original trimming hatches have been permanently closed with steel plates - (on upper decks). |                |           |          |                          |                          |      |
|  | Scantling and Sketch | ... | ... | ... |  |                |           |          |                          |                          |      |
| HATCH COVERS   | Material             | ... | ... | ... | Wood 3"  | Same as Nº1.   |           |          |                          | Wood 3"                  |      |
|  | Thickness            | ... | ... | ... | Fine A.  | Same as Nº1.   |           |          |                          | Fine A.                  |      |
|  | How fitted           | ... | ... | ... | 3"   | Same as Nº1.   |           |          |                          | 3"                       |      |
|  | Bearing Surface      | ... | ... | ... | 3"   | Same as Nº1.   |           |          |                          | 3"                       |      |
| Spacing of Cleats  |                      |     |     |     | ...  | ...            | ...       | ...      | ...                      | ...                      |      |
| Number of Tarpaulins   |                      |     |     |     | ...  | ...            | ...       | ...      | ...                      | ...                      |      |
| *Are wood fore and afters steel shod at all bearing surfaces?              |                      |     |     |     | yes.   |                |           |          |                          |                          |      |
| Are battens and wedges efficient and in good condition?                    |                      |     |     |     | yes.   |                |           |          |                          |                          |      |
| Are tarpaulins in good condition and in accordance with rule requirements? |                      |     |     |     | yes.   |                |           |          |                          |                          |      |
| Are lashings provided in accordance with rule requirements?                |                      |     |     |     | yes.   |                |           |          |                          |                          |      |

Particulars of fiddle, funnel and ventilator coamings:-

Fiddle coamings - 4". Funnel coamings - 3".  
Ventilator coamings - 7-5". Hinged steel covers on all gratings.

Particulars of Flush Bunker Scuttles:-

One each side in shelter tween deck amidships.  
Cast iron lid - bayonet joint - 18" diameter.  
Secured by chain fastening.

Particulars of Companionways:-

Steel hood forward of Nº1 hatch & deck houses forward of Nº3 & 5 hatches:- 3" plating & coaming - 3"x3"x3" stiffeners spaced 32" for steel hood. 4" plating - 5"x3"x3-5" stiffeners spaced 27" for deck houses. Companionways in bridge deck house & poop deck house.

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

30" high x 28" plating.  
Wood plugs & canvas covers on board.

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

28"-30" high. Canvas covers fitted & snifting holes drilled in all cases.

Particulars of Gangway Cargo and Coaling Ports:-

3 each side in shelter tween deck.  
Hinged steel w.t. doors fitted, with efficient fastenings inside.

Particulars of Scuppers and Sanitary Discharge Pipes:-

Single storm valves on all discharges.  
All scuppers above main deck are led through ship's side plating.

Particulars of Side Scuttles:-

Hinged dead-lights fitted in all cases.

Particulars of Guard Rails:-

48" high with 4 rails & substantial stanchions all round shelter deck.

Particulars of Gangways, Lifelines, etc.:-

No permanent fittings exist, but there are satisfactory means of rigging life lines should they be needed. Access for raft in shelter deck.

## Particulars of Freeing Arrangements.

| 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 ... ..   | <sup>20 58</sup><br>42-0" | 54"<br>at openings | 18" x 24"<br>4" dia scuppa. | 1<br>2           | 34.<br>17.     | 8.53"               |
| Forward Well ... ..   | <sup>19 16</sup><br>53-0" | 54"<br>at openings | 18" x 24"<br>4" dia scuppa  | 1<br>2           | 34.<br>17.     | 8.42                |
| State position of each freeing port ... .. } After Well :- Usout centre - 9" above deck.                  |                           |                    |                             |                  |                |                     |
| (F. and, A. position and height above deck edge) } Forward Well :- Shutters.                              |                           |                    |                             |                  |                |                     |
| 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.  |                           |                    |                             |                  |                |                     |

## 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   | 35"                          | 35"     | 5"x3-1/2"x35"     | 30-32"  | None                          | None.              | -               | 7-6"              |
| Raised Quarter Deck Bulkhead  | ✓                            |         |                   |         |                               |                    |                 |                   |
| Bridge, After Bulkhead  | 3                            | 3       | 5"x3-1/2"x35"     | 36"     | None                          | 30"                | 20"             | 7-6"              |
| Bridge, Forward Bulkhead  | 35"                          | 35"     | 5"x3-1/2"x4"      | 26"     | None.                         | 30"                | 20"             | 7-6"              |
| Forecastle Bulkhead   | 35"                          | 35"     | 4-1/2"x3-1/2"x35" | 28"     | None.                         | 30"                | 12"             | 7-6"              |
| Trunk, Aft  | ✓                            |         |                   |         |                               |                    |                 |                   |
| Trunk, Forward  | ✓                            |         |                   |         |                               |                    |                 |                   |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                      | ✓                            |         |                   |         |                               |                    |                 |                   |
| Exposed Machinery Casings on Superstructure Decks                                   | 4"                           | 4"      | 3"x3"x4"          | 36"     | 30"x40"x5" at top only.       | 30" in sides only. | 18"             | 7-6"              |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 35"                          | 35"     | 3"x3"x35"         | 36"     | None.                         | 30"x60"            | 20"             | 7-6"              |
| Deckhouses on Flush Deck Ships  | See companionways on page 2. |         |                   |         |                               |                    |                 |                   |

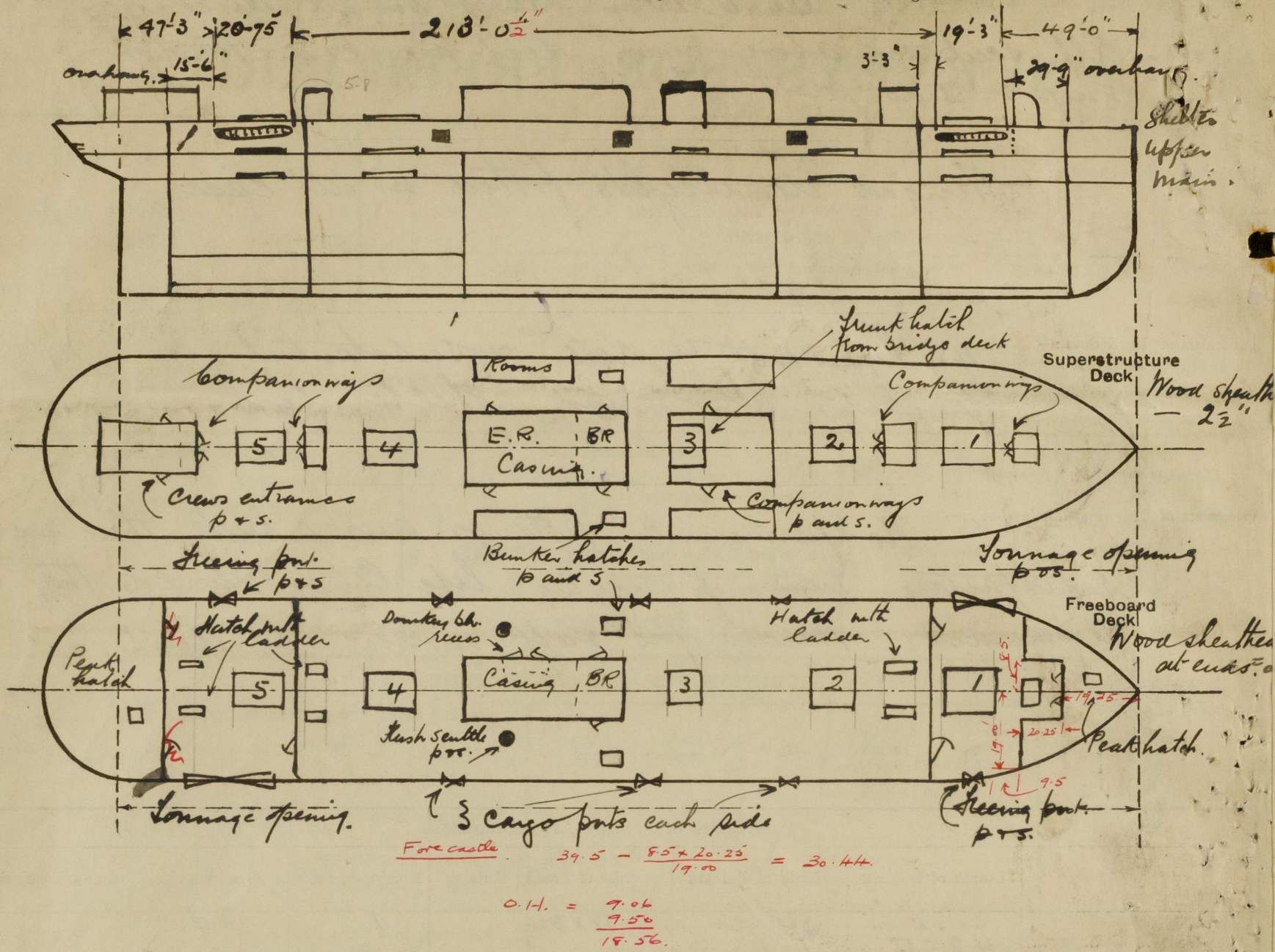
## Particulars of Closing Appliances (all capable of being manipulated from both sides).

|   |        |   |   |   |   |   |   |   |
|---|--------|---|---|---|---|---|---|---|
| Poop Bulkhead   | None ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Raised Quarter Deck Bulkhead  | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Bridge, After Bulkhead  | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Bridge, Forward Bulkhead  | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Forecastle Bulkhead   | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                      | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Exposed Machinery Casings on Superstructure Decks                                   | ✓      | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| 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:—



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

Vessel surveyed afloat.  
Examined in dry dock in September 1932.  
See Bomsay Report No 4563.  
Survey carried out in conjunction with  
completion of S/S No 2. See Bomsay Report herewith.

Builder's name and yard number

Names of sister ships

Owners *Bomsay and Persia S.N. Co.*

Fee £ *Rs 535/-*

Received by me



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Foundation