

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. **52673**

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *a poop, bridge forecastle*Port of Survey *Glasgow*

(Type of Superstructures.)

Date of Survey *28th June 1932*

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

*Clan Maciver**British  
Glasgow**144253**4500**1921-6*Name of Surveyor *H. Thomson*Moulded Dimensions: Length *384.0* Breadth *51.75* Depth *29.0*  
Moulded displacement at moulded draught = 85 per cent. of moulded depth *10630* tons  
Coefficient of fineness for use with Tables *.759*Particulars of Classification *+100 A1*

## Depth for Freeboard (D)

Moulded depth ... .. *29.0*Stringer plate ... .. *.44*

Sheathing on exposed deck

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

Depth for Freeboard (D) =

*29.04*

## Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R =*(29.04 - 25.60) 2.954 = +10.16*(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) *51.75*Standard Round of Beam =  $\frac{B \times 12}{50} =$  *12.42*Ship's Round of Beam = *13*Difference *beam* *.58*

Restricted to

Correction =  $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.58}{4} (1 - .5193) = -.04$ 

## DEDUCTION FOR SUPERSTRUCTURES.

|                         | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height       | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|--------------|-------------------|----------------------|
| Poop enclosed ...       | <i>49.1</i>             | <i>49.10</i>                                 | <i>8'-0"</i> |                   | <i>49.10</i>         |
| " overhang ...          | <i>.3</i>               | <i>.15</i>                                   | <i>8'-0"</i> |                   | <i>.15</i>           |
| R.Q.D. enclosed ...     |                         |  |              |                   |                      |
| " overhang ...          |                         |  |              |                   |                      |
| Bridge enclosed ...     | <i>110.5</i>            | <i>110.50</i>                                | <i>8'-0"</i> |                   | <i>110.50</i>        |
| " overhang aft ...      | <i>2.2</i>              | <i>1.65</i>                                  | <i>8'-0"</i> |                   | <i>1.65</i>          |
| " overhang forward ...  | <i>none</i>             |  |              |                   |                      |
| Fore enclosed ...       | <i>38.0</i>             | <i>38.00</i>                                 | <i>8'-0"</i> |                   | <i>38.00</i>         |
| " overhang ...          | <i>none</i>             |  |              |                   |                      |
| Trunk aft ...           |                         |  |              |                   |                      |
| " forward ...           |                         |  |              |                   |                      |
| Tonnage opening aft ... |                         |  |              |                   |                      |
| " forward ...           |                         |  |              |                   |                      |
| Total ...               | <i>200.10</i>           | <i>199.40</i>                                |              |                   | <i>199.40</i>        |

Standard Height of Superstructure *7.34'*" " R.Q.D. *✓*Deduction for complete superstructure *40.93*Percentage covered  $\frac{S}{L} =$  *52.12%*"  $\frac{S_1}{L} =$  *51.93%*"  $\frac{E}{L} =$  *51.93%*

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *40.93* x *.3793* = *-15.52*

## SHEER CORRECTION.

| Station                       | Standard Ordinate | S M      | Product       | Actual Ordinate | Effective Ordinate | S M      | Product       |
|-------------------------------|-------------------|----------|---------------|-----------------|--------------------|----------|---------------|
| A.P. ...                      | <i>48.40</i>      | <i>1</i> | <i>48.40</i>  | <i>60</i>       | <i>60.00</i>       | <i>1</i> | <i>60.00</i>  |
| $\frac{1}{2}$ L from A.P. ... | <i>21.54</i>      | <i>4</i> | <i>86.16</i>  | <i>26</i>       | <i>26.04</i>       | <i>4</i> | <i>104.28</i> |
| $\frac{3}{4}$ L " ...         | <i>5.32</i>       | <i>2</i> | <i>10.64</i>  | <i>6</i>        | <i>6.51</i>        | <i>2</i> | <i>13.02</i>  |
| Amidships ...                 | <i>✓</i>          | <i>4</i> | <i>✓</i>      | <i>✓</i>        | <i>✓</i>           | <i>4</i> | <i>✓</i>      |
| $\frac{3}{4}$ L from F.P. ... | <i>10.65</i>      | <i>2</i> | <i>21.30</i>  | <i>12</i>       | <i>12.10</i>       | <i>2</i> | <i>24.20</i>  |
| $\frac{1}{2}$ L " ...         | <i>43.08</i>      | <i>4</i> | <i>172.32</i> | <i>52</i>       | <i>52.13</i>       | <i>4</i> | <i>208.52</i> |
| F.P. ...                      | <i>96.80</i>      | <i>1</i> | <i>96.80</i>  | <i>120</i>      | <i>120.00</i>      | <i>1</i> | <i>120.00</i> |
| Total ...                     |                   |          | <i>435.62</i> |                 |                    |          | <i>531.82</i> |

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{96.2}{18} \left( \frac{75-2606}{2} \right) = -2.62$ 

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 = *29.04*Summer freeboard = *5.21*Moulded draught (d) = *23.83*

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *5.96* = *6"*

Addition for Winter North Atlantic Freeboard (if required) =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 

Tons per inch immersion at summer load water line

T =

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

=

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient *759 + 68 = 1.439*  
*1.36* *1.36*Depth Correction ... .. *10.16*Deduction for superstructures ... .. *15.52*Sheer correction ... .. *2.62*Round of Beam correction ... .. *.04*

Correction for Thickness of Deck amidships ... ..

Other corrections, scantlings, etc. ... ..

Summer Freeboard = *62.42*

## 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 " " " " " " " "

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1906 freeboards  
at GlasgowLloyd's Register  
Foundation

112 8910-212700-902100

## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS |  |  |                       |   |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
|---|--|--|-----------------------|---|-----------------|-----------------|-----------------|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Upper Deck                                      |  |  |                       |   |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
| Bridge Deck                                     |  |  |                       |   |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
| Siding Deck                                     |  |  |                       |   |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
| Upper Deck                                      |  |  |                       |   |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
| Description of Hatchway                         |  |  | No. 1.                | No. 2.  | No. 3.          | No. 4.          | No. 5.          | No. 6.          | No. 7.         | No. 8.         | No. 9.         | No. 10.        | No. 11.        | No. 12.        | No. 13.        | No. 14.        |
| Dimensions of Hatchway                          |  |  | 23'-10" x 18'-0"      | 23'-2" x 18'-0"   | 13'-0" x 18'-0" | 20'-8" x 18'-0" | 24'-8" x 18'-0" | 13'-0" x 18'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" | 13'-6" x 3'-0" |
| COAMINGS  |  |  | Height above Deck ... | 30  | 30              | 30              | 30              | 30              | 30             | 30             | 30             | 30             | 30             | 30             | 30             | 30             |
|   |  |  | Thickness ...         | 1/4   | 1/4             | 1/4             | 1/4             | 1/4             | 1/4            | 1/4            | 1/4            | 1/4            | 1/4            | 1/4            | 1/4            | 1/4            |
|   |  |  | Stiffeners ...        | Y x 3 x 40  | Y x 3 x 40      | None            | Y x 3 x 40      | Y x 3 x 40      | None           | None           | None           | None           | None           | None           | None           | None           |
|   |  |  | Brackets, Stays ...   | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
| HATCH BEAMS                                     |  |  | Number ...            | 4   | 5               | 2               | 5               | 4               | 2              | 2              | 2              | 2              | 2              | 2              | 2              | 2              |
|   |  |  | Spacing ...           | 4'-9"   | 4'-8 1/2"       | 4'-4"           | 5'-0 3/4"       | 4'-4"           | 4'-4"          | 4'-4"          | 4'-4"          | 4'-4"          | 4'-4"          | 4'-4"          | 4'-4"          | 4'-4"          |
|   |  |  | Scantling and Sketch  |  |                 |                 |                 |                 |                |                |                |                |                |                |                |                |
|   |  |  | Bearing Surface ...   | 3/2   | 3/2             | 3/2             | 3/2             | 3/2             | 3/2            | 3/2            | 3/2            | 3/2            | 3/2            | 3/2            | 3/2            | 3/2            |
| FORE AND AFTERS                                 |  |  | Number ...            | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
|   |  |  | Spacing ...           | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
|   |  |  | Unsupported Lengths   | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
|   |  |  | Scantling* and Sketch | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
|   |  |  | Bearing Surface ...   | None  | None            | None            | None            | None            | None           | None           | None           | None           | None           | None           | None           | None           |
| HATCH COVERS                                    |  |  | Material ...          | W.P.  | W.P.            | W.P.            | W.P.            | W.P.            | W.P.           | W.P.           | W.P.           | W.P.           | W.P.           | W.P.           | W.P.           | W.P.           |
|   |  |  | Thickness ...         | 2 1/2   | 2 1/2           | 2 1/2           | 2 1/2           | 2 1/2           | 2 1/2          | 2 1/2          | 2 1/2          | 2 1/2          | 2 1/2          | 2 1/2          | 2 1/2          | 2 1/2          |
|   |  |  | How fitted            | Y-a.  | Y-a.            | Y-a.            | Y-a.            | Y-a.            | Y-a.           | Y-a.           | Y-a.           | Y-a.           | Y-a.           | Y-a.           | Y-a.           | Y-a.           |
|   |  |  | Bearing Surface       | 3   | 3               | 3               | 3               | 3               | 3              | 3              | 3              | 3              | 3              | 3              | 3              | 3              |
| Spacing of Cleats                               |  |  | 24                    | 24  | 24              | 24              | 24              | 24              | 24             | 24             | 24             | 24             | 24             | 24             | 24             | 24             |
| Number of Tarpaulins                            |  |  | 2                     | 2   | None            | 2               | 2               | 2               | 2              | 2              | 2              | 2              | 2              | 2              | 2              | 2              |

\*Are wood fore and afters steel shod at all bearing surfaces? *None*

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? *Ringbolts for lashings provided.*

Particulars of fiddley, funnel and ventilator coamings:—

Engine skylight in casing top of steel strongly constructed.  
Fidley openings in casing top protected by strong hinged plate covers.  
Ventilators on casing top in good condition.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways :—

None

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

|   |            |    |                          |                 |         |      |
|---|------------|----|--------------------------|-----------------|---------|------|
| 8 | Ventilator | on | fireable deck to stove   | coaming 9' high | x 8 dia | x 30 |
| 2 | "          | in | forward well to hold     | "               | x 17    | x 30 |
| 2 | "          | on | bridge deck              | "               | x 17    | x 38 |
| 2 | "          | in | after well to turn decks | "               | x 11    | x 34 |
| 2 | "          |    | deep tank                | "               | x 10    | x 34 |
| 2 | "          |    | hold                     | "               | x 17    | x 36 |
| 2 | "          | on | poop deck to hold        | "               | x 17    | x 38 |
| 1 | "          |    | tunnel                   | "               | x 11    | x 32 |

Ventilator coamings constructed in accordance with the Rules & closed with wood plugs and canvas covers.

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

|   |  |    |      |   |    |     |
|---|--|----|------|---|----|-----|
| 1 | Air pipe on forecastle deck to f.o. tank | 9' | high | x | 3' | dia |
| 1 | " " " " " "                              | 29 | "    | x | 3' | "   |
| 1 | " " " " " "                              | 26 | "    | x | 3' | "   |
| 1 | " " " " " "                              | 30 | "    | x | 3' | "   |
| 1 | " " " " " "                              | 60 | "    | x | 3' | "   |
| 1 | " " " " " "                              | 72 | "    | x | 3' | "   |
| 1 | " " " " " "                              | 6  | "    | x | 3' | "   |

No snifting holes fitted.

*Special*  
No means of closing air pipes  
provided.

Particulars of Gangway Cargo and Coaling Ports :—

None

CLAN MACIVER

Particulars of Scuppers and Sanitary Discharge Pipes :—

There are no scuppers discharging below the freeboard deck.  
One sanitary discharge is situated below the freeboard deck in way of poop in the position shown in Sketch with a storm valve at ship's side.

Particulars of Side Scuttles :—

Side scuttles in poop bridge & forecattle 9 dia fitted with hinged iron deadlights -

### Particulars of Guard Rails :—

|                                 |   |                         |   |
|---------------------------------|---|-------------------------|---|
| Guard rails on fore-castle deck | 3'-0" high with 2 rods.                             | Stanchions 5'-0" apart. | ✓ |
| " " on after end of bridge deck | 3'-3" high with 3 rods.                             | " 3'-6" "               | ✓ |
| on poop-deck                    | 3'-2" high with 2 rods.                             | " 4'-9" "               | ✓ |
| A bulwark                       | 3'-3" high is fitted at ship's side on bridge deck. |                         | ✓ |

Particulars of Gangways, Lifelines, etc. :—

~~There is no gangway or lifeline fitted in the forward or after wells.~~

Suitable provision has been made for regging lifebuoys which will be available for use in any part of the ship which ought have to be raised by the crew in the regular working of the ship.

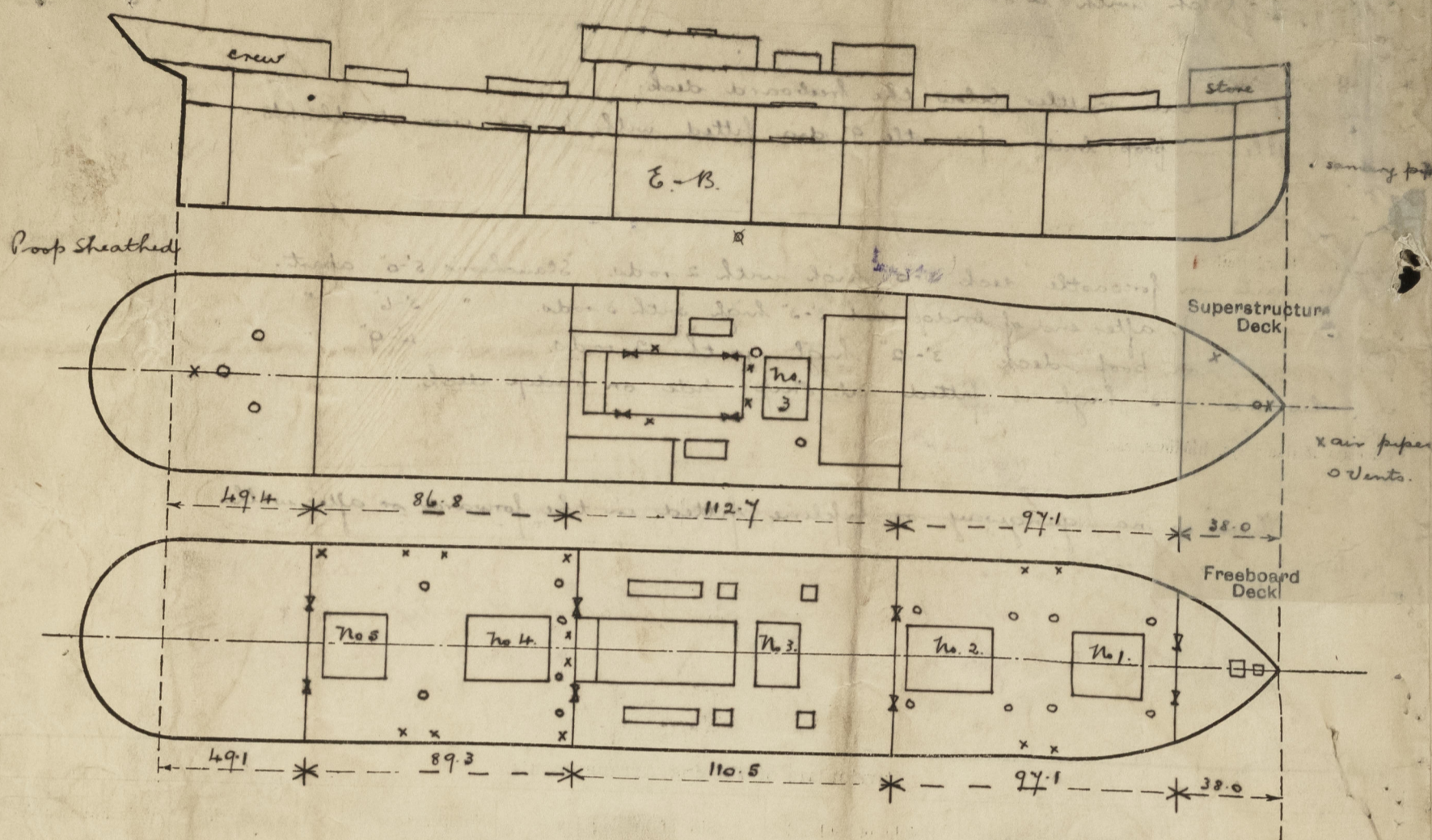
|  | Length of Bulwark | Height of Bulwark | Size of Freeing Ports  | Number each side  | Area each side            | Rule area each side |
|--|-------------------|-------------------|--|-------------------|---------------------------|---------------------|
| Aft Well ... ..  | 86.8              | 4'-0"             | $42 \times 16\frac{1}{2}$<br>$24 \times 15$<br>$30 \times 16\frac{1}{2}$     | 3 }<br>4 }<br>1 } | $14\frac{1}{2}$ ft<br>7.5 | 17.36 sq ft         |
| Forward Well ... ..  | 97.1              | 4'-0"             | $42 \times 16\frac{1}{2}$ 3<br>$24 \times 15$<br>$30 \times 16\frac{1}{2}$ 2 | 3 }<br>5 }<br>2 } | $14\frac{1}{2}$ ft<br>7.5 | 19.42 sq ft         |
| <p>State position of each freeing port ... .. } After Well: from bridge bulkhead 15'-0", 36'-2", 42'-2"</p> <p>(F. and A. position and height above deck edge) } Forward Well: " " 18'-10", 34'-0", 44'-10", 12" above deck.</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 12'-3", 24'-0", 37'-3", 57'-3", 57'-6".</p> <p>Additional area where sheer is less than standard. fitted with 1 rail.</p> |                   |                   |  |                   |                           |                     |

|  | Coaming   | Plating | Stiffeners        | Spacing | End Attachments<br>of Stiffeners | Size of Openings                     | Height of<br>Sills | Height of<br>Casings |
|--|-----------|---------|-------------------|---------|----------------------------------|--------------------------------------|--------------------|----------------------|
| Poop Bulkhead ... ..   | None      | .40 ✓   | 6 x 3 1/2 x .40 A | 29 ✓    | None ✓                           | 5'-0" x 2'-0" ✓                      | 18 ✓               | ✓                    |
| Raised Quarter Deck Bulkhead ...   |           |         |                   |         |                                  |                                      |                    |                      |
| Bridge, After Bulkhead ... ..  | None      | .30 ✓   | 3 x 3 x .30       | 36 ✓    | None ✓                           | 6'-0" x 3'-6" ✓                      | 18 ✓               | ✓                    |
| Bridge, Forward Bulkhead, ... ..   | 30 x 42 ✓ | .40 ✓   | 9 x 3 1/2 x .50 A | 30 ✓    | brackets<br>top & bottom ✓       | 3'-0" x 2'-6" ✓<br>4'-3" x 4'-6" ✓   | 18 ✓               | ✓                    |
| Forecastle Bulkhead ... ..   | None      | .30 ✓   | 3 x 3 x .30 ✓     | 30 ✓    | None ✓                           | 5'-0" x 2'-6" ✓                      | 18 ✓               | ✓                    |
| Tween Deck ... ..  |           |         |                   |         |                                  |                                      |                    |                      |
| Tween Decks ... ..   |           |         |                   |         |                                  |                                      |                    |                      |
| Exposed Machinery Casings on Deck<br>located on Raised Quarter Decks ...                           |           |         |                   |         |                                  |                                      |                    |                      |
| Exposed Machinery Casings on Super-<br>structure Decks ... ..                                      | None      | .34     | 3 x 3 x .30       | 32      | brackets<br>at top               | 4'-11" x 2'-4" ✓<br>4'-11" x 2'-2" ✓ | 18 ✓               | 7'-6"                |
| Machinery Casings within Superstruc-<br>tures not fitted with Class I Closing<br>Appliances ... .. | None      | .34     | 3 x 3 x .30       | 32      | None                             | 1'-6" x 9'-6" ✓                      | 5'-0" ✓            | ✓                    |
| Deckhouse - Black Deck Ships ...   |           |         |                   |         |                                  |                                      |                    |                      |

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

|  |     |   |
|--|-----|---|
| Poop Bulkhead  | ... | Shifting boards 3" thick in channels riveted to bulkhead. Full height of opening. |
| Raised Quarter Deck Bulkhead   | ... | Shifting boards 3" thick in channels riveted to bulkhead. Full height of opening. |
| Bridge, After Bulkhead   | ... | Hinged steel plate doors manipulated from one side only. (Narrow closed).         |
| Bridge, Forward Bulkhead   | ... | Shifting boards 3" thick in channels riveted to bulkhead. Full height of opening. |
| Forecastle Bulkhead  | ... | Hinged steel plate doors manipulated from one side only.                          |
| Raised Machinery Casings on Forecastle or Raised Quarter Decks                     | ... | Hinged steel plate doors manipulated from one side only.                          |
| Raised Machinery Casings on Superstructure Decks                                   | ... | Hinged steel plate doors manipulated from one side only.                          |
| Machinery Casings within Superstructure not fitted with Class I Closing Appliances | ... | Hinged steel plate doors manipulated from both sides.                             |
| Forecastle Bulkhead  | ... | Hinged steel plate doors manipulated from one side only.                          |

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 shown on the following sketches:—



State any special features in the construction of the ship:— This vessel is engaged in the Indian, African & Australian trade.  
 Timber freeboard not required.

Full displacement at 24'-0" full draft = 10341 tons      Tons per inch = 38.58 tons.  
 " " 25'-0" " " = 10805 "      " " " = 38.66

The survey on this vessel was held afloat and confined to an examination of the means for closing the openings in the decks and sides of the ship.

No part of a special survey has been held at this time.

H. Thomson.

Builder's name and yard number Lithgows Ltd. no. Y34

Names of sister ships "Clan Macindoe", "Clan Macinnes"

Owners The Clan Line Steamers Ltd (Cayzer Bros & Co Ltd)

Fee £ 12 15 0

Received by me



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