

10 JAN 1933

WEEK DAY

M. 175-3

27953

Index. No. (For London Office only.)

Rpt. C.11.

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

14788

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having RAISED 4<sup>th</sup> OK. BRIDGE & FORECASTLE

(Type of Superstructures.)

Ship's Name S DALWHINNIE Nationality and Port of Registry BRITISH GLASGOW Official Number 146289 Gross Tonnage 734 Date of Build 1919-9m

Moulded Dimensions: Length 180'-0" Breadth 28'-0" Depth 14'-6"  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 1352 tons  
 Coefficient of fineness for use with Tables .762

Port of Survey MIDDLESBROUGH  
 Date of Survey 6-1-33  
 Name of Surveyor J. B. Vinton  
 Particulars of Classification +100 A1.  
VESSEL SURVEYED IN DRY OK.  
S.S. L.R. No 3-10-31

| Depth for Freeboard (D)   | Depth correction  | Round of Beam correction   |
|---|---|--|
| Moulded depth ... .. 14.50                                      | (a) Where D is greater than Table depth<br>(D-Table depth) R = $(14.53 - 12.00) / 1.385 = 3.51$ | Moulded Breadth (B) <u>28.0</u>  |
| Stringer plate ... .. <u>4.0</u>                                | (b) Where D is less than Table depth (if allowed)<br>(Table depth-D) R =                        | Standard Round of Beam = $\frac{B \times 12}{50} = 6.72$   |
| Sheathing on exposed deck<br>$T \left( \frac{L-S}{L} \right) =$ | If restricted by superstructures  | Ship's Round of Beam = <u>7.28</u>   |
| Depth for Freeboard (D) = <u>14.53</u>                          |   | Difference   |
|   |   | Restricted to  |
|   |   | Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.28}{4} \times .2172 = -.02$ |

## DEDUCTION FOR SUPERSTRUCTURES.

|                                | Mean Covered Length (S) | Equivalent Enclosed Length (S) | Height      | Height Correction | Effective Length (E) |
|--------------------------------|-------------------------|--------------------------------|-------------|-------------------|----------------------|
| Poop enclosed ...              | ✓                       |                                |             |                   |                      |
| „ overhang ...                 |                         |                                |             |                   |                      |
| R.Q.D. enclosed ...            | <u>104.5</u>            | <u>104.50</u>                  | <u>4.0</u>  | ✓                 | <u>104.50</u>        |
| „ overhang ...                 | <u>NIL</u>              |                                |             |                   |                      |
| Bridge enclosed ...            | <u>12.83</u>            | <u>12.83</u>                   | <u>7.0</u>  | ✓                 | <u>12.83</u>         |
| „ overhang aft ...             | <u>NIL</u>              |                                |             |                   |                      |
| „ overhang forward ...         | <u>1.83</u>             | <u>.91</u>                     |             |                   | <u>.91</u>           |
| Fore enclosed <u>equiv. 21</u> | <u>37.23-66</u>         | <u>21.37</u>                   | <u>6.75</u> | ✓                 | <u>21.37</u>         |
| „ overhang ... <u>2</u>        | <u>59</u>               | <u>1.30</u>                    |             |                   | <u>1.30</u>          |
| Trunk aft ...                  |                         |                                |             |                   |                      |
| „ forward ...                  |                         |                                |             |                   |                      |
| Tonnage opening aft ...        |                         |                                |             |                   |                      |
| „ „ forward ...                |                         |                                |             |                   |                      |
| Total ...                      | <u>143.12</u>           | <u>140.91</u>                  |             |                   | <u>140.91</u>        |

|   |               |
|---|---------------|
| Standard Height of Superstructure   | <u>6.00</u>   |
| „ „ R.Q.D.  | <u>3.533</u>  |
| Deduction for complete superstructure   | <u>24.00</u>  |
| Percentage covered $\frac{S}{L} =$  | <u>79.51</u>  |
| „ „ $\frac{S_1}{L} =$   | <u>78.28</u>  |
| „ „ $\frac{E}{L} =$   | <u>78.28</u>  |
| Percentage from Table, Line A.<br>(corrected for absence of forecastle (if required)) | <u>73.18</u>  |
| Percentage from Table, Line B.<br>(corrected for absence of forecastle (if required)) |               |
| Interpolation for bridge less than 2L (if required)                                   |               |
| Deduction =   | <u>-17.56</u> |

## SHEER CORRECTION.

| Station                       | Standard Ordinate | S | M | Product       | Actual Ordinate | Effective Ordinate | S | M | Product       |
|-------------------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. ...                      | <u>28.00</u>      | 1 |   | <u>28.00</u>  | <u>48</u>       | <u>53.60</u>       | 1 |   | <u>53.60</u>  |
| $\frac{1}{2}$ L from A.P. ... | <u>12.46</u>      | 4 |   | <u>49.84</u>  | <u>19.35</u>    | <u>23.85</u>       | 4 |   | <u>95.40</u>  |
| $\frac{1}{4}$ L „ ...         | <u>3.08</u>       | 2 |   | <u>6.16</u>   | <u>4.82</u>     | <u>5.90</u>        | 2 |   | <u>11.80</u>  |
| Amidships ...                 |                   | 4 |   |               | <u>0</u>        |                    | 4 |   |               |
| $\frac{3}{4}$ L from F.P. ... | <u>6.16</u>       | 2 |   | <u>12.32</u>  | <u>6.40</u>     | <u>6.40</u>        | 2 |   | <u>12.80</u>  |
| $\frac{1}{2}$ L „ ...         | <u>24.92</u>      | 4 |   | <u>99.68</u>  | <u>25.67</u>    | <u>25.67</u>       | 4 |   | <u>102.68</u> |
| F.P. ...                      | <u>56.00</u>      | 1 |   | <u>56.00</u>  | <u>59.75</u>    | <u>59.75</u>       | 1 |   | <u>59.75</u>  |
| Total ...                     |                   |   |   | <u>252.00</u> |                 |                    |   |   | <u>336.03</u> |

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{84.03}{18} \left( .75 - .3975 \right) = -1.64$

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 = 18.53  
 Summer freeboard = 4.44  
 Moulded draught (d) = 14.09

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 3.52, 3 $\frac{1}{2}$   
 Addition for Winter North Atlantic Freeboard (if required) = 2

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

$=$  3 $\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

762 + 68 = 1442

1.36 + 1.36

Depth Correction ... .. 3.51

Deduction for superstructures ... .. 17.56

Sheer correction ... .. 1.64

Round of Beam correction ... .. .02

Correction for Thickness of Deck amidships ... .. 48.00

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

51.51 19.22 +32.29

Summer Freeboard = 53.28

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

|  |                                  |
|--|----------------------------------|
| Tropical Fresh Water Line above Centre of Disc ... | <u>6<math>\frac{3}{4}</math></u> |
| Fresh Water Line „ „ ...                           | <u>3<math>\frac{1}{2}</math></u> |
| Tropical Line „ „ ...                              | <u>3<math>\frac{1}{4}</math></u> |
| Winter Line below „ „ ...                          | <u>3<math>\frac{1}{2}</math></u> |
| Winter North Atlantic Line „ „ ...                 | <u>5<math>\frac{1}{2}</math></u> |

|                                    |  |
|------------------------------------|--|
| Tropical Fresh Water Freeboard ... | <u>4'-5<math>\frac{1}{4}</math>\"</u>  |
| Fresh Water „ „ ...                | <u>3'-10<math>\frac{1}{2}</math>\"</u> |
| Tropical „ „ ...                   | <u>4'-1<math>\frac{3}{4}</math>\"</u>  |
| Winter „ „ ...                     | <u>4'-8<math>\frac{3}{4}</math>\"</u>  |
| Winter North Atlantic „ „ ...      | <u>4'-10<math>\frac{3}{4}</math>\"</u> |

5m, 32.

W445-0031(112)


MARKING FORM  
 27 MAR 1936  
 RECEIVED

MARKING FORM  
 13 JAN 1936  
 RECEIVED

Lloyd's Register  
 Foundation



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS |   |   |                   |                   |                 |  |  |  |  |
|---|---|---|-------------------|-------------------|-----------------|--|--|--|--|
| Description of Hatchway ... ..                  |   |   |                   | UP. DK. No. 1     | R. Q. DK. No. 2 |  |  |  |  |
| Dimensions of Hatchway ... ..                   |   |   |                   | 25'-8" x 15'-6"   | 29'-4" x 15'-6" |  |  |  |  |
| COAMINGS  | { | Height above Deck ...   | 39"               | 36"               |                 |  |  |  |  |
|   |   | Thickness { Sides ...   | 44                | 44                |                 |  |  |  |  |
|   |   | { Ends ...  | 44                | 44                |                 |  |  |  |  |
|   |   | Stiffeners ... ..   | B.P. 7 x 3 x 4    | 7 x 3 x 4         |                 |  |  |  |  |
| Brackets, Stays ...                             |   | B.P. 2  | 2                 |                   |                 |  |  |  |  |
| HATCH BEAMS                                     | { | Number ... ..   | 5                 | 5                 |                 |  |  |  |  |
|   |   | Spacing ... ..  | 4'-3"             | 4'-10 1/2"        |                 |  |  |  |  |
|   |   | Scantling and Sketch ...  | 14" x 8" x .36    | 14" x 8" x .36    |                 |  |  |  |  |
|   |   |  | 3 1/2 x 3 x 4 1/2 | 3 1/2 x 3 x 4 1/2 |                 |  |  |  |  |
| Bearing Surface ... ..                          |   | 3"  | 3"                |                   |                 |  |  |  |  |
| FORE AND AFTERS                                 | { | Number ... ..   |                   |                   |                 |  |  |  |  |
|   |   | Spacing ... ..  |                   |                   |                 |  |  |  |  |
|   |   | Unsupported Lengths ...   | ✓                 | ✓                 |                 |  |  |  |  |
|   |   | Scantling* and Sketch ...   |                   |                   |                 |  |  |  |  |
| Bearing Surface ... ..                          |   |   |                   |                   |                 |  |  |  |  |
| HATCH COVERS                                    | { | Material ... ..   | N.P.              | N.P.              |                 |  |  |  |  |
|   |   | Thickness ... ..  | 3"                | 3"                |                 |  |  |  |  |
|   |   | How fitted ... ..   | F x A.            | F x A.            |                 |  |  |  |  |
|   |   | Bearing Surface ... ..  | 3"                | 3"                |                 |  |  |  |  |
| Spacing of Cleats ... ..                        |   | 1'-10"  | 1'-10"            |                   |                 |  |  |  |  |
| Number of Tarpaulins ... ..                     |   | 3   | 3                 |                   |                 |  |  |  |  |

\*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 fiddley, funnel and ventilator coamings:—

STOKEHOLD GRATINGS COVERED BY STRONG STEEL HINGED COVERS.  
FIDLEY & FUNNEL VENTILATORS IN EFFICIENT CONDITION.  
ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:—

NONE FITTED

Particulars of Companionways :—

ONE STEEL COMPANION 2'-3" x 2'-3" x 4'-9" HIGH ON FORECASTLE OK. LEADING TO ENCLOSED FORECASTLE. STEEL HINGED DOOR WITH 16" SILL DOOR OPERATED FROM BOTH SIDES.

ONE STEEL COMPANION 2'-9" x 2'-5" x 3'-2" HIGH ABOVE BRIDGE OK. LEADING TO ENCLOSED BRIDGE. WOOD HINGED DOOR WITH 18" SILL. DOOR OPERATED FROM BOTH SIDES.

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

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

|  |   |
|--|---|
| 2 YENTS. ON RAISED 9 <sup>th</sup> DK. 15" DIA. COAMS. 38" x .34                                     | LED TO HOLD SPACE.                        |
| 1 YENT. ON UPPER DK. 16" DIA. COAM. 8' 6" x .4   | LED TO HOLD SPACE. SUPPORTED AT F'CLE DK. |
| 1 YENT ON UPPER DK. 16" DIA. COAM. 33" x .4  | " " " " " "                               |
| ALL YENTS. CONSTRUCTED IN ACCORDANCE WITH RULES AND COAMINGS CLOSED WITH WOOD PLUGS + CANVAS COVERS. |   |

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

Particulars of Air Pipes in exposed positions in freeboard, raised quarter, or superstructure deck.

|                                |                                |                   |
|--------------------------------|--------------------------------|-------------------|
| 2 C.I. AIR PIPES ON BRIDGE DK. | 3'-HIGH x 2½"-DIA <sup>R</sup> | FROM DB. TANK.    |
| 1 C.I. AIR PIPE ON UPPER DK    | 3'-1" HIGH x 2½"               | " "               |
| 1 C.I. " " FLE DK.             | 3' " x 3½"                     | " FORE PEAK TANK. |

ALL AIR PIPES CLOSED WITH CANVAS COVERS

Particulars of Gangway Cargo and Coaling Ports :—

NONE FITTED



Particulars of Scuppers and Sanitary Discharge Pipes :—

SAFETY DISCHARGE PIPES FITTED WITH GUNMETAL STORM  
VALVES AT SHIPS SIDE & EFFICIENT TRAP AT INNER END.  
NO SCUPPERS ON SHIPS SIDE BELOW FREEBOARD DECK.

Particulars of Side Scuttles:—

SIDE SCUTTLES TO CREW SPACES IN FORECASTLE  
+ BRIDGE SPACES FITTED WITH HINGED DEADLIGHTS

Particulars of Guard Rails :—

GUARD RAILS ON F'LE OK. 3'-3" HIGH WITH 3 RODS -  
STANCHIONS SPACED 4'-3" APART.  
STEEL BULWARK ON RAISED Q<sup>R</sup>. OK. 3'-6" HIGH EFFICIENTLY CONSTRUCTED & SUPPORTED  
" " " UPPER OK. 3'-9" " " "  
" " " BRIDGE OK. 3'-4" " " "

Particulars of Gangways, Lifelines, etc. :—

EFFICIENT LIFE LINES FITTED ON PORT & STARBOARD SIDES  
IN FORWARD WELL & IN QUARTER DECK AFT.

| 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 ... ..                    | <del>112'-0"</del><br>104'-6"    | 3'-6"             | 2'-6" x 1'-6"         | 6                | 22.5<br>SQ. FEET | <del>22-4</del><br>20.9<br>SQ. FT. |
| Forward Well ... ..                  | <del>39'-0"</del><br>36'-10 1/2" | 3'-9"             | 2'-6" x 1'-6"         | 3                | 11.25<br>SQ. FT. | <del>10.4</del><br>2<br>SQ. FT.    |

State position of each freeing port ... .. } After Well:—  
(F. and A. position and height above deck edge) } Forward Well:—

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

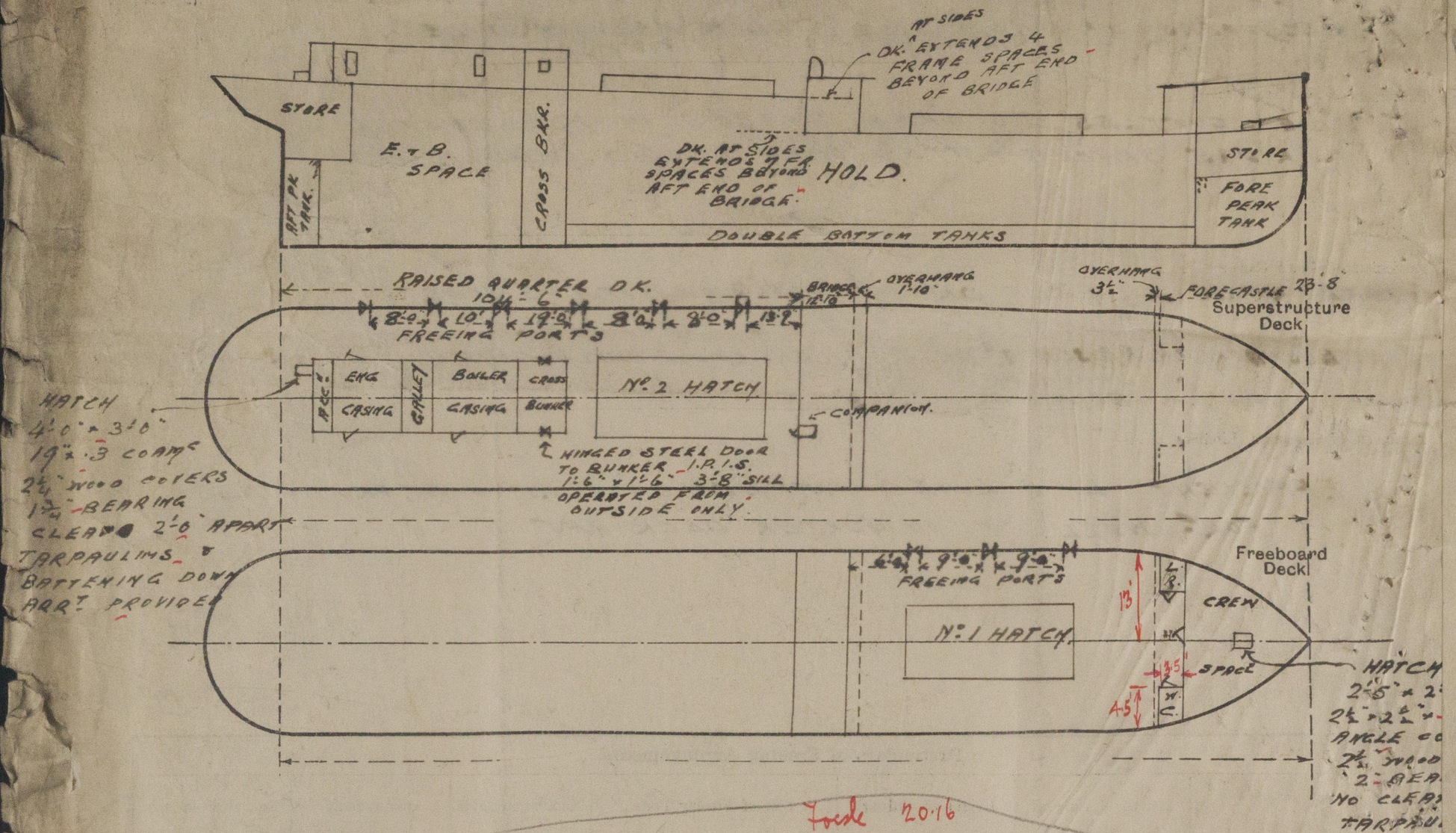
Additional area where sheer is less than standard.

| Particulars of Superstructures, Trunks, Casings, Deckhouses.                                       |                  |         |                   |         |   |                  |                    |                               |
|--|------------------|---------|-------------------|---------|---|------------------|--------------------|-------------------------------|
|  | Coaming          | Plating | Stiffeners        | Spacing | End Attachments<br>of Stiffeners                          | Size of Openings | Height of<br>Sills | Height of<br>Casings          |
| Poop Bulkhead ... ..   | ✓                |         |                   |         |   |                  |                    |                               |
| Raised Quarter Deck Bulkhead }<br>Bridge, After Bulkhead ... }                                     | 12" x 4"         | 3       | 7½" x 3" x 4 B.A. | 33"     | BRACKETS COMPANION<br>DOOR<br>TOP & BOTTOM 4'-4" x 1'-10" | 18"              | 4'-0"              |                               |
| Bridge, Forward Bulkhead ...   | 36" x 44"        | 3/4     | 6" x 3" x 4 B.A.  | 30"     | BRACKETS<br>TOP & BOTTOM                                  | NONE             | ✓                  | 7'-0" AT CAY<br>7'-3" AT SIDE |
| Forecastle Bulkhead ... ..   | YEATH<br>PLATING | 3       | NOT OBTAINABLE    | 33"     | ✓   | 4'-8" x 1'-11"   | 18"                | 6'-9"                         |
| Trunk, Aft ... ..  | ✓                |         |                   |         |   |                  |                    |                               |
| Trunk, Forward ... ..  | ✓                |         |                   |         |   |                  |                    |                               |
| Exposed Machinery Casings on Free-<br>board or Raised Quarter Decks ...                            | 31" x 34"        | 3       | 3" x 3" x 6/20    | 30"     | BRACKETS<br>AT TOP  | 4'-6" x 1'-11"   | 21"                | 6'-10"                        |
| Exposed Machinery Casings on Super-<br>structure Decks ... ..                                      | ✓                |         |                   |         |   | 4'-6" x 1'-5"    | 44"                |                               |
| Machinery Casings within Superstruc-<br>tures not fitted with Class I Closing<br>Appliances ... .. | ✓                |         |                   |         |   |                  |                    |                               |
| Deckhouses on Flush Deck Ships ...   | ✓                |         |                   |         |   |                  |                    |                               |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). |   |
|--|---|
| Pop Bulkhead ... ..  | ✓   |
| Raised Quarter Deck Bulkhead ...   | WOOD COMPANION WAY DOOR MANIPULATED FROM BOTH SIDES ✓               |
| Bridge, After Bulkhead ... ..  |   |
| Bridge, Forward Bulkhead ... ..  | NO OPENING ✓  |
| Forecastle Bulkhead ... ..   | HINGED STEEL DOORS - MANIPULATED FROM BOTH SIDES.                   |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...                         | HINGED STEEL DOORS P+S. TO ENG. ROOM & TO STOKENHOLD                |
| Exposed Machinery Casings on Superstructure Decks ... ..                                   | MANIPULATED FROM BOTH SIDES. - ALSO                                 |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... .. | HINGED STEEL DOOR P+S. TO COAL BUNKER MANIPULATED FROM OUTSIDE ONLY |
| Decks, 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:—



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

Survey held while vessel was in dry dock.  
Bottom and rudder, decks, hatchways, hatches  
& their supports, masts &c. examined  
& found satisfactory.

OMIT

Builder's name and yard number N.Y. SCHIPSW DE MERWEDE N° 129.

Names of sister ships \_\_\_\_\_

Owners LEITH HULL & HAMBURG STEAM PACKET CO. LTD. (J. CURRIE & CO. MANAGERS.)

Fee £ 6 : 16 : -

Received by me \_\_\_\_\_