

# WRECK SECTION

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

F.2.  
**No. 574**

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Drop with Combined Bridge & Forecastle hull deck

Port of Survey LISBON.

Date of Survey 6/7 July 1932.

Name of Surveyor G. T. B. SEULLARD.

(Type of Superstructures.)

| Ship's Name   | Nationality and Port of Registry | Official Number | Gross Tonnage | Date of Build |
|---------------|----------------------------------|-----------------|---------------|---------------|
| <u>Pinkel</u> | <u>Portuguese<br/>Lisbon</u>     |                 | <u>3100</u>   | <u>1915</u>   |

Moulded Dimensions: Length 335.6 Breadth 47.8 Depth 24.10

Moulded displacement at moulded draught = 85 per cent. of moulded depth 7507 tons

Coefficient of fineness for use with Tables .777

Particulars of Classification +100 A1.  
S.S. Lis. No. 3-10.27  
S.S. Lis. No 1-31.

| Depth for Freeboard (D)  | Depth correction  | Round of Beam correction  |
|--|---|---|
| Moulded depth ... .. <u>24.83</u>  | (a) Where D is greater than Table depth<br>(D-Table depth) R =<br><u>(24.88-22.33) 2.577 = + 6.57</u> | Moulded Breadth (B) <u>47.8</u>   |
| Stringer plate ... .. <u>.05</u>   | (b) Where D is less than Table depth (if allowed)<br>(Table depth-D) R =<br><u>✓</u>                  | Standard Round of Beam = $\frac{B \times 12}{50} = 11.47$ ✓   |
| Sheathing on exposed deck<br>$T \left( \frac{L-S}{L} \right) =$ <u>✓</u> | If restricted by superstructures <u>✓</u>   | Ship's Round of Beam = <u>12</u> ✓  |
| Depth for Freeboard (D) = <u>24.88</u>                                   |   | Difference <u>.53</u> ✓   |
|  |   | Restricted to   |
|  |   | Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.53}{4} \times .126 = -.02$ ✓ |

#### DEDUCTION FOR SUPERSTRUCTURES.

|                            | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height            | Height Correction | Effective Length (E) |
|----------------------------|-------------------------|--|-------------------|-------------------|----------------------|
| Poop enclosed ... ..       | <u>31'</u>              | <u>31.00</u>                                 | <u>7' 11 1/2"</u> | <u>✓</u>          | <u>31.00</u>         |
| " overhang ... ..          | <u>6"</u>               | <u>.25</u>                                   |                   | <u>✓</u>          | <u>.25</u>           |
| R.Q.D. enclosed ... ..     |                         |  |                   |                   |                      |
| " overhang ... ..          |                         |  |                   |                   |                      |
| Bridge enclosed... ..      | <u>261'-1 1/2"</u>      | <u>261.12</u>                                | <u>7' 11 1/2"</u> | <u>✓</u>          | <u>261.12</u>        |
| " overhang aft ... ..      | <u>6"</u>               | <u>.39</u>                                   |                   | <u>✓</u>          | <u>.39</u>           |
| " overhang forward ... ..  |                         |  |                   |                   |                      |
| F'cle enclosed ... ..      |                         |  |                   |                   |                      |
| " overhang ... ..          |                         |  |                   |                   |                      |
| Trunk aft ... ..           |                         |  |                   |                   |                      |
| " forward ... ..           |                         |  |                   |                   |                      |
| Tonnage opening aft ... .. |                         |  |                   |                   |                      |
| " " forward ... ..         |                         |  |                   |                   |                      |
| Total ... ..               | <u>293.12</u>           | <u>292.76</u>                                |                   |                   | <u>292.76</u>        |

Standard Height of Superstructure 6.85

" " R.Q.D. 37.67

Deduction for complete superstructure 37.67

Percentage covered  $\frac{S}{L} = 87.50\%$  ✓

" "  $\frac{S_1}{L} = 87.40\%$  ✓

" "  $\frac{E}{L} = 87.40\%$  ✓

Percentage from Table, Line A. 84.48% ✓  
(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 =  $37.67 \times .8448 = 31.82$  ✓

#### SHEER CORRECTION.

| Station                | Standard Ordinate | S | M | Product       | Actual Ordinate | Effective Ordinate | S | M | Product       |
|------------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. ... ..            | <u>43.50</u>      | 1 |   | <u>43.50</u>  | <u>52</u>       | <u>53.00</u>       | 1 |   | <u>53.00</u>  |
| 1/8 L from A.P. ... .. | <u>19.36</u>      | 4 |   | <u>77.44</u>  | <u>22</u>       | <u>21.72</u>       | 4 |   | <u>86.88</u>  |
| 2/8 L " ... ..         | <u>4.79</u>       | 2 |   | <u>9.58</u>   | <u>5</u>        | <u>5.43</u>        | 2 |   | <u>10.86</u>  |
| Amidships ... ..       |                   | 4 |   | <u>0</u>      | <u>0</u>        | <u>0</u>           | 4 |   | <u>0</u>      |
| 2/8 L from F.P. ... .. | <u>9.57</u>       | 2 |   | <u>19.14</u>  | <u>9</u>        | <u>10.07</u>       | 2 |   | <u>20.14</u>  |
| 1/8 L " ... ..         | <u>38.71</u>      | 4 |   | <u>154.84</u> | <u>40.5</u>     | <u>40.28</u>       | 4 |   | <u>161.12</u> |
| F.P. ... ..            | <u>87.00</u>      | 1 |   | <u>87.00</u>  | <u>94</u>       | <u>93.50</u>       | 1 |   | <u>93.50</u>  |
| Total ... ..           |                   |   |   | <u>391.50</u> |                 |                    |   |   | <u>425.50</u> |

Mean actual sheer aft = Excess  
Mean standard sheer aft

Mean actual sheer forward = Excess  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = 50

" " aft of " = .28

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{34.00}{18} \left( .75 - \frac{.4375}{2} \right) = -.059$  ✓

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)   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
|---|---|--|--|---|---|-------------------------|-------------|--|--------------------------------------|--|--------------|-------------------------|--|------------|---------------------------------|--|------------|---|--|--|--|--|--|--|-------------|--------------|--|--|----------------|--|--|---------------------------------|
| <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>24.88</u> Ft.</p> <p>Summer freeboard = <u>2.52</u></p> <p>Moulded draught (d) = <u>22.36</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches = <u>5.59</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p> | <p>Displacement in salt water at summer load water line</p> <p><math>\Delta =</math></p> <p>Tons per inch immersion at summer load water line</p> <p>T =</p> <p>Deduction = <math>\frac{\Delta}{40 T}</math> inches =</p> | <p>Correction for coefficient <math>\frac{.68 + .777}{1.36} = \frac{1.457}{1.36}</math></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ... ..</td> <td><u>6.57</u></td> <td></td> </tr> <tr> <td>Deduction for superstructures ... ..</td> <td></td> <td><u>31.82</u></td> </tr> <tr> <td>Sheer correction ... ..</td> <td></td> <td><u>.59</u></td> </tr> <tr> <td>Round of Beam correction ... ..</td> <td></td> <td><u>.02</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ... ..</td> <td></td> <td></td> </tr> <tr> <td>Other corrections, scantlings, etc. ... ..</td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>6.57</u></td> <td><u>32.43</u></td> </tr> <tr> <td></td> <td></td> <td><u>- 25.86</u></td> </tr> <tr> <td></td> <td></td> <td>Summer Freeboard = <u>30.22</u></td> </tr> </table> |  | + | - | Depth Correction ... .. | <u>6.57</u> |  | Deduction for superstructures ... .. |  | <u>31.82</u> | Sheer correction ... .. |  | <u>.59</u> | Round of Beam correction ... .. |  | <u>.02</u> | Correction for Thickness of Deck amidships ... .. |  |  | Other corrections, scantlings, etc. ... .. |  |  |  | <u>6.57</u> | <u>32.43</u> |  |  | <u>- 25.86</u> |  |  | Summer Freeboard = <u>30.22</u> |
|   | +   | -  |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Depth Correction ... ..   | <u>6.57</u>   |  |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Deduction for superstructures ... ..  |   | <u>31.82</u>   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Sheer correction ... ..   |   | <u>.59</u>   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Round of Beam correction ... ..   |   | <u>.02</u>   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Correction for Thickness of Deck amidships ... ..   |   |  |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
| Other corrections, scantlings, etc. ... ..  |   |  |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
|   | <u>6.57</u>   | <u>32.43</u>   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
|   |   | <u>- 25.86</u>   |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |
|   |   | Summer Freeboard = <u>30.22</u>  |  |   |   |                         |             |  |                                      |  |              |                         |  |            |                                 |  |            |   |  |  |  |  |  |  |             |              |  |  |                |  |  |                                 |

#### 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 |                      |                     |                     |                     |                     |                     |                         |                    |                 |               |
|---|----------------------|---------------------|---------------------|---------------------|---------------------|---------------------|-------------------------|--------------------|-----------------|---------------|
| Bridge Deck > Well                              |                      |                     |                     | < Freeboard deck    |                     |                     |                         |                    |                 |               |
| Description of Hatchway                         | Nº 1, 2, 4           | Nº 3                | Nº 5                | No. 6 to Poop Store | Nº 1, 2, 4          | Nº 3                | All remaining hatchways | After Peak Tank F  | Coaling A.      | Coaling B.    |
| Dimensions of Hatchway                          | 26' 4" x 18'         | 10' 2" x 15'        | 26' 4" x 18'        | 10' x 10'           | 26' 4" x 18'        | 10' 2" x 15'        | 2' 5" x 36"             | 4' 6" x 4 1/2"     | 6' 2" x 14 1/2" | 8' 1" x 2' 9" |
| COAMINGS  | Height above Deck    | 30"                 | 30"                 | 36"                 | 30"                 | 15"                 | 15"                     | 8"                 | 6 1/2"          | 30"           |
|   | Thickness            | 7/16"               | 3/8"                | 3/8"                | 3/8"                | 1/2"                | 1/2"                    | 5/16"              | 3/8"            | 3/8"          |
|   | Sides                | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Stiffeners           | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
| HATCH BEAMS                                     | Brackets, Stays      | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Number               | 4                   | 1                   | 4                   | 1                   | 4                   | 1                       | —                  | —               | 1             |
|   | Spacing              | 63"                 | 60"                 | 60"                 | 60"                 | 63"                 | 60"                     | —                  | —               | 48"           |
|   | Scantling and Sketch | 2 1/2" x 11" x 1/2" | 3 1/2" x 11" x 1/2" | 2 1/2" x 11" x 1/2" | 2 1/2" x 11" x 1/2" | 3 1/2" x 11" x 1/2" | 2 1/2" x 11" x 1/2"     | —                  | —               | Riveted       |
| FORE AND AFTERS                                 | Bearing Surface      | 3 1/2"              | 3 1/2"              | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Number               | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Spacing              | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Unsupported Lengths  | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
| HATCH COVERS                                    | Scantling and Sketch | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Bearing Surface      | —                   | —                   | —                   | —                   | —                   | —                       | —                  | —               | —             |
|   | Material             | W.P.                | W.P.                | W.P.                | W.P.                | W.P.                | W.P.                    | Bolted plate cover | W.P.            | W.P.          |
|   | Thickness            | 3"                  | 3"                  | 3"                  | 3"                  | 3"                  | 3"                      | 3"                 | 3"              | 3"            |
| HATCH COVERS                                    | How fitted           | F & A               | F & A               | F & A               | F & A               | F & A               | F & A                   | Thwart             | F & A           | Thwart        |
|   | Bearing Surface      | 4"                  | 3"                  | 4"                  | 3"                  | 4"                  | 2 1/2"                  | —                  | 2 1/2"          | 1 1/2"        |
|   | Spacing of Cleats    | 24"                 | 22"                 | 24"                 | 22"                 | 25"                 | 25"                     | 20"                | 20"             | 28"           |
|   | Number of Tarpaulins | 3                   | 3                   | 3                   | 3                   | 3                   | 3                       | 3                  | 3               | 3             |

Particulars of fiddle, funnel and ventilator coamings:—  
*Fiddle Coaming 4' 6" x 3/8". Funnel Coaming 29". Stokelord gratings covered by strong steel hinges cover. Ventilator Coamings 13' above deck.  
 Engine room skylight of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:—

*None*

Particulars of Companionways:—

*On Forecastle to Crews quarters. 3' 9" x 3' 6" x 5' 4" high. Sill 12". Steel Door?*

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

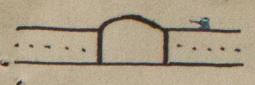
*1 - 6" x 17" Coaming to Forepeak. 2 - 12" x 31" to Crews quarters. 2 - 12" x 36" each to Nº 1, 2, 3, 4, 5 holds. 1 - 12" x about 12' 0" to tunnel. 2 Hanson posts to trunk. 2 - 8" x 30" to Poop stores. Wood plugs & canvas covers for all Coaming*

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

*2 - 2" steel P 6" high to Nº 1, 2, 3, 6, 8, 9 tanks.  
 2 - 39" " " 39" " " Nº 5 & 6 tanks.  
 1 - C.I. " 4" x 13" high to Afterpeak tank.  
 Canvas covers are being made for closing these pipes.*

Particulars of Gangway Cargo and Coaling Ports:—

*None*

Particulars of Scuppers and Sanitary Discharge Pipes — *Scuppers, thus  2 each I.S. after well. Crew W.C. one Port, one Starboard. 4 1/2" steel pipe, non-return valve, discharging above freeboard deck. Officers Starboard side, similar. Engineers (amidships) W.C. 4 1/2" steel pipe non-return valve discharging below freeboard deck. One 1 1/2" steel pipe from pantry, no valve; one 1 1/2" Engineers bath no valve. Bath discharges below Freeboard deck.*

Particulars of Side Scuttles:—

*In Forecastle & Poop, hinged deadlights of substantial construction.*

Particulars of Guard Rails:—

*36" high, 2 rails at 16" & 36". Spacing of stanchions 4'-0". Full length of ship except after well.*

Particulars of Gangways, Lifelines, etc.:—

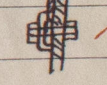
*On Port side, gangway over well, 30" wide, stanchions 5' 4" apart, 2 rows of ropes.  
 On Forecastle a full width mesh plate, 16" high of 3/8" plate; strongly constructed.*

| 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                           | 40' 6"            | 48"               | 1 - 1' 6" x 18"<br>2 - 3' 0" x 18" | 1<br>2           | 11.25          | 10.5                |
| Forward Well                         |                   |                   |                                    |                  |                |                     |

State position of each freeing port (F. and A. position and height above deck edge) } After Well:— 7' 8" - 15' 3" - 31' 2". Height above deck 10'  
 Forward Well:—  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *Hinged steel shutters.*  
 Additional area where sheer is less than standard.

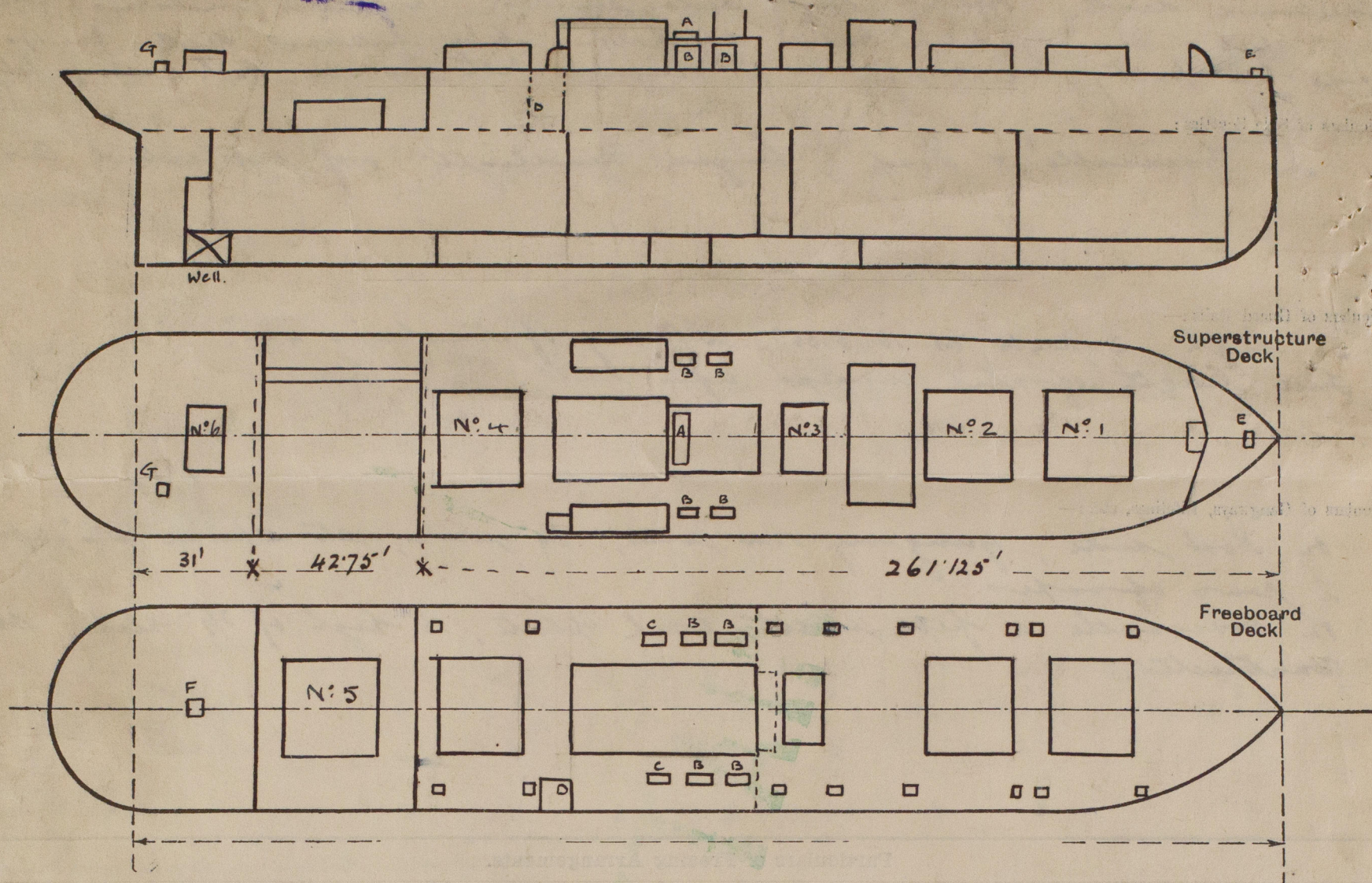
| Particulars of Superstructures, Trunks, Casings, Deckhouses.                        |            |         |   |            |                               |                  |                 |                   |
|---|------------|---------|---|------------|-------------------------------|------------------|-----------------|-------------------|
|   | Coaming    | Plating | Stiffeners  | Spacing    | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
| Poop Bulkhead   | 24" x 1/2" | 5/16"   | 5 1/2" x 3 1/2" x 3/8"                              | 28"        | —                             | 4' 0" x 6' 4"    | 11"             | 7' 11 1/2"        |
| Raised Quarter Deck Bulkhead  |            | 5/16"   | 5 1/2" x 3 1/2" x 3/8"                              | 30"        | —                             | 4' 0" x 6' 4"    | 11"             | 7' 11 1/2"        |
| Bridge, After Bulkhead  |            |         |   |            |                               |                  |                 |                   |
| Bridge, Forward Bulkhead  |            |         |   |            |                               |                  |                 |                   |
| Forecastle Bulkhead   |            |         |   |            |                               |                  |                 |                   |
| Trunk, Aft  |            |         |   |            |                               |                  |                 |                   |
| Trunk, Forward  |            |         |   |            |                               |                  |                 |                   |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                      |            |         |   |            |                               |                  |                 |                   |
| Exposed Machinery Casings on Superstructure Decks                                   | 15" x 1/2" | 3/8"    | Forw. 5 1/2" x 3 1/2" x 3/8"<br>aft. 4" x 3" x 3/8" | 46"<br>41" | —                             | 2-20" x 4' 6"    | 15"             | 7' 1"             |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances |            |         |   |            |                               |                  |                 |                   |
| Deckhouses on Flush Deck Ships  |            |         |   |            |                               |                  |                 |                   |

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

|   |   |
|---|---|
| Poop Bulkhead   | 2. steel plates bolted to bulkhead, with clips thus:—  |
| Raised Quarter Deck Bulkhead  |   |
| Bridge, After Bulkhead  | As Poop bulkhead.   |
| Bridge, Forward Bulkhead  |   |
| Forecastle Bulkhead   |   |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                      |   |
| Exposed Machinery Casings on Superstructure Decks                                   | 2 hinged steel doors, operated from both sides.   |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances |   |
| 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:—



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

Small Hatches. On Freeboard deck C. <sup>one tarpaulin battening</sup> Coaling 5'8" x 2'10". Coaming 12". Hatches 3'1".  
 On Forecastle. D. <sup>one tarpaulin battening</sup> Steel trunk Eng<sup>g</sup> W.C. & Bath.  
 On Forecastle. E. <sup>2 tarpaulins battening</sup> To Forepeak, 2'11" x 2'8". Coaming 13". Hatches 3'1".  
 On Loop. G. To Loop store 2'10" x 2'10" " 16" wood framing 2"  
 3 Tarpaulins.

Boiler room forward bulkhead, recessed forward for donkey boiler space.

Vessel surveyed afloat. The vessel went through 2nd. SS. No 1 in January, 1931, & was dry docked in February, 1932. She is in very good condition.

Builder's name and yard number

Ropner & Sons Ltd.

No 500

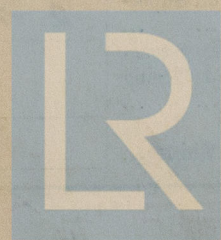
Names of sister ships

Owners

Soc. Geral de Comercio, Industria e Transportes, Lda.

Fee £

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