

W Bay No 132

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having Bridge & Forecastle

Port of Survey London

(Type of Superstructures.)

Ship's Name  
"SANDGATE CASTLE"

Nationality and Port of Registry  
British  
London

Official Number  
146633

Gross Tonnage  
7634

Date of Build  
1922-9

Date of Survey 6<sup>th</sup> Mar 1933

Name of Surveyor Chas. H. Stock

Moulded Dimensions: Length 424.75' Breadth 56'-0 Depth 38'-7 $\frac{1}{2}$

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

Coefficient of fineness for use with Tables

Particulars of Classification +100A1  
Shelter Deck with freeboard  
S.S. Lon No 2-30.

Depth for Freeboard (D)

Depth correction

Round of Beam correction

| DEDUCTION FOR SUPERSTRUCTURES. |                         |  |             |                   |                      |  |
|--------------------------------|-------------------------|--|-------------|-------------------|----------------------|--|
|                                | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>i</sub> ) | Height      | Height Correction | Effective Length (E) |  |
| Poop enclosed ...              |                         |  |             |                   |                      | Standard Height of Superstructure                    |
| „ overhang ...                 |                         |  |             |                   |                      | „ „ R.Q.D.   |
| R.Q.D. enclosed ...            |                         |  |             |                   |                      | Deduction for complete superstructure                |
| „ overhang ...                 |                         |  |             |                   |                      | Percentage covered $\frac{S}{L} =$                   |
| Bridge enclosed ...            | <u>130'-0</u>           |  | <u>8'-9</u> |                   |                      | „ „ $\frac{S_i}{L} =$                                |
| „ overhang aft ...             |                         |  |             |                   |                      | „ „ $\frac{E}{L} =$                                  |
| „ overhang forward ...         |                         |  |             |                   |                      | Percentage from Table, Line A.                       |
| Forecastle enclosed ...        | <u>45'-0</u>            |  | <u>8'-0</u> |                   |                      | (corrected for absence of forecastle (if required))  |
| „ overhang ...                 |                         |  |             |                   |                      | Percentage from Table, Line B.                       |
| Trunk aft ...                  |                         |  |             |                   |                      | (corrected for absence of forecastle (if required))  |
| „ forward ...                  |                         |  |             |                   |                      | Interpolation for bridge less than .2L (if required) |
| Tonnage opening aft ...        |                         |  |             |                   |                      | Deduction =  |
| „ „ forward                    |                         |  |             |                   |                      |  |
| Total ...                      |                         |  |             |                   |                      |  |

SHEER CORRECTION.

| Station                       | Standard Ordinate | S M | Product | Actual Ordinate | Effective Ordinate | S M | Product |  |
|-------------------------------|-------------------|-----|---------|-----------------|--------------------|-----|---------|--|
| A.P. ...                      |                   | 1   |         |                 |                    | 1   |         | Mean actual sheer aft =                                  |
| $\frac{1}{8}$ L from A.P. ... |                   | 4   |         |                 |                    | 4   |         | Mean standard sheer aft =                                |
| $\frac{2}{8}$ L „ ...         |                   | 2   |         |                 |                    | 2   |         | Mean actual sheer forward =                              |
| Amidships ...                 |                   | 4   |         |                 |                    | 4   |         | Mean standard sheer forward =                            |
| $\frac{3}{8}$ L from F.P. ... |                   | 2   |         |                 |                    | 2   |         | Length of enclosed superstructure forward of amidships = |
| $\frac{1}{8}$ L „ ...         |                   | 4   |         |                 |                    | 4   |         | „ „ aft of „ =   |
| F.P. ...                      |                   | 1   |         |                 |                    | 1   |         |  |
| Total ...                     |                   |     |         |                 |                    |     |         |  |

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

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.

Deduction for Fresh Water.

TABULAR FREEBOARD corrected for Flush Deck (if required)

Depth to Freeboard Deck = Ft.

Summer freeboard =

Moulded draught (d) =

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =

Addition for Winter North Atlantic Freeboard (if required) =

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

T =

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

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard =

| 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 „ „ ...      | ... |

5m,3,52.

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS |                      |               |               |               |               |                   |              |               |             |
|---|----------------------|---------------|---------------|---------------|---------------|-------------------|--------------|---------------|-------------|
| Description of Hatchway                         | Nº1                  | Nº2.5         | In Bridge Nº3 | Nº4           | Nº6           | In Bridge Bunkers | Chain Locker | Nº3           | BUNKER      |
| Dimensions of Hatchway                          | 23'6" x 18'0"        | 33'0" x 18'0" | 12'0" x 18'0" | 12'0" x 18'0" | 24'0" x 18'0" | 8'6" x 3'6"       | 4'0" x 3'0"  | 12'0" x 18'0" | 8'6" x 3'6" |
| COAMINGS  | Height above Deck    | 30"           | 30"           | 30"           | 30"           | 30"               | 17"          | 27"           | 27"         |
|   | Thickness            | 44"           | 44"           | 44"           | 44"           | 44"               | 44"          | 44"           | 44"         |
|   | Sides                | 8" B.A.       | 8" B.A.       | 8" B.A.       | 8" B.A.       | 8" B.A.           | 8" B.A.      | 8" B.A.       | 8" B.A.     |
|   | Stiffeners           | ✓             | ✓             | ✓             | ✓             | ✓                 | ✓            | ✓             | ✓           |
| HATCH BEAMS                                     | Number               | 4             | 6             | 2             | 2             | 4                 | 2            | 2             | 2           |
|   | Spacing              | 4'8"          | 4'8"          | 4'0"          | 4'0"          | 4'8"              | 4'0"         | 4'8"          | 4'8"        |
|   | Scantling and Sketch | 4x3x44"       | 4x3x44"       | 4x3x44"       | 4x3x44"       | 4x3x44"           | 4x3x44"      | 4x3x44"       | 4x3x44"     |
|   | Bearing Surface      | 3"            | 3"            | 3"            | 3"            | 3"                | 3"           | 3"            | 3"          |
| FORE AND AFTERS                                 | Number               | ✓             | ✓             | ✓             | ✓             | ✓                 | ✓            | ✓             | ✓           |
|   | Spacing              | ✓             | ✓             | ✓             | ✓             | ✓                 | ✓            | ✓             | ✓           |
|   | Unsupported Lengths  | ✓             | ✓             | ✓             | ✓             | ✓                 | ✓            | ✓             | ✓           |
|   | Scantling and Sketch | ✓             | ✓             | ✓             | ✓             | ✓                 | ✓            | ✓             | ✓           |
| HATCH COVERS                                    | Material             | 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"      |
|   | How fitted           | F.A.          | F.A.          | F.A.          | F.A.          | F.A.              | F.A.         | F.A.          | F.A.        |
|   | Bearing Surface      | 3"            | 3"            | 3"            | 3"            | 3"                | 3"           | 3"            | 3"          |
| Spacing of Cleats                               | 24"                  | 24"           | 24"           | 24"           | 24"           | 24"               | 24"          | 24"           | 24"         |
| Number of Tarpaulins                            | 2                    | 2             | 2             | 2             | 2             | 2                 | 2            | 2             | 2           |

\*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, funnel & vent coamings of substantial construction and in efficient condition. Fiddle top openings covered with hinged steel covers. Engine room skylight of steel. Bunker hatch on casing top 9" coaming 16'0" x 7'0" fitted with 5" board covers, tarpaulins & battening any 5". Basing top 3'0" above bridge deck.*

Particulars of Flush Bunker Scuttles:— *Nil.*

Particulars of Companionways:— *Low House aft:— Plating 40 Stiff 3" spaced 39" Steel hinged door 36" x 60" Sill 17" operated both sides - to lazarette. 2" Teak wood door 24" x 56" Sill 17" operated both sides - to crew space.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—  
*On fore deck - 6" to 9" dia Coamings 18" x 34"  
 on bridge deck - 6" to 22" dia Coamings 18" to 36" x 34" to 40"  
 on upper deck - 6" to 22" dia Coamings 18" to 36" x 34" to 40"  
 Efficient means of closing provided.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—  
*15", 24" & 30" high x 25". Those 15" & 24" high are fitted with automatic closing valves but those 30" high have screw neck bands with no closing appliance.*

Particulars of Gangway Cargo and Coaling Ports:—  
*Two gangway doors each side for 5'6" x 4'0" in shelter beams as shown on page 4. Sill 12". Doors & frames of substantial construction and efficiently secured.*

Particulars of Scuppers and Sanitary Discharge Pipes:— *Sanitary discharges fitted with gunmetal storm valves. Overboard scuppers from bridge space have no storm valves.*

Particulars of Side Scuttles:— *All side scuttles of substantial construction and fitted with hinged deadlights or portable deadlights stored adjacent.*

Particulars of Guard Rails:— *Forecastle deck - 3'6" high 3 rails stanchions spaced about 5 ft apart. Upper deck after end - 3'6" - 3 - - - - -*

Particulars of Gangways, Lifelines, etc.:— *Nil*

| 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                           | 157'0"            | 3'6"              | 2 @ 3'0" x 1'0"<br>5 @ 3'0" x 1'4" | 7                | open rails aft 23.7 ft <sup>2</sup> |                     |
| Forward Well                         | 92'6"             | 3'6"              | 2 @ 3'0" x 1'0"<br>3 @ 3'0" x 1'4" | 5                | 16.5 ft <sup>2</sup>                |                     |

State position of each freeing port ... After Well:— Br. 17'0", 17'0", 15'0", 17'0", 16'0", 17'0", 33'0" } Sill 12" x 16"  
 (F. and A. position and height above deck edge) Forward Well:— Br. 8'6", 18'0", 15'0", 21'0", 16'0"  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—  
*Freeing ports 3'0" x 1'4" have 3 vent bars. Freeing ports 3'0" x 1'0" are in way of fairleads.*

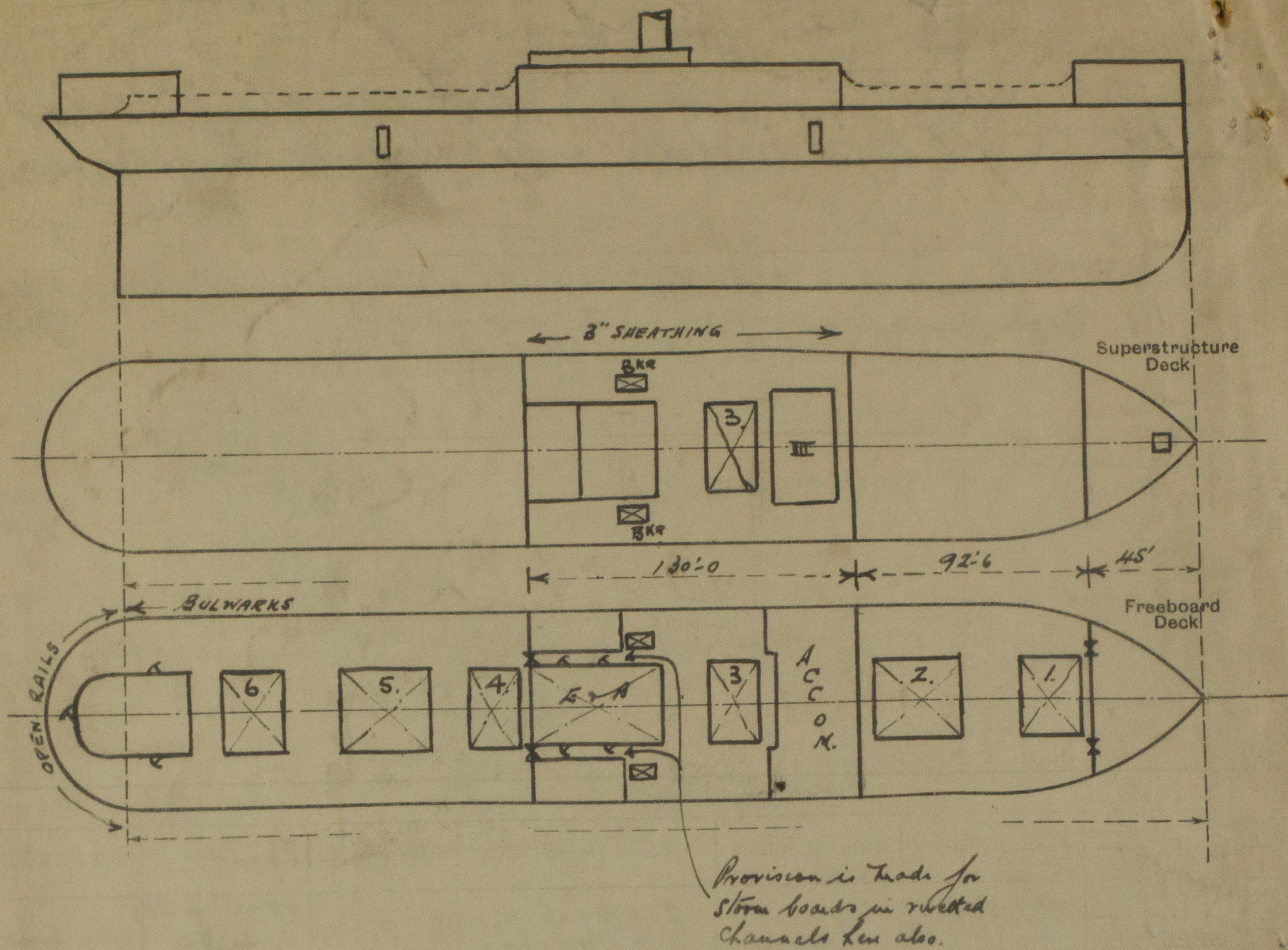
Additional area where sheer is less than standard.

| 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   | ✓       |         |                      |           |                               |                  |                 |                   |
| Raised Quarter Deck Bulkhead  | ✓       |         |                      |           |                               |                  |                 |                   |
| Bridge, After Bulkhead  | 40      | 40      | 3" angle             | 36"       | B.A. top                      | 5'6" x 3'4"      | 18"             | 8'6"              |
| Bridge, Forward Bulkhead  | 48      | 48      | 11" A.A.             | 42"       | B.A. top                      | None             | ✓               | 8'6"              |
| Forecastle Bulkhead   | 34      | 34      | 3 1/2" x 3 1/2" x 40 | 42"       | B.A. top                      | 3'0" x 4'0"      | 23"             | 8'0"              |
| Trunk, Aft  | ✓       |         |                      |           |                               |                  |                 |                   |
| Trunk, Forward  | ✓       |         |                      |           |                               |                  |                 |                   |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                      | ✓       |         |                      |           |                               |                  |                 |                   |
| Exposed Machinery Casings on Superstructure Decks                                   | 30      | 30      | 3 1/2" x 3 1/2" x 40 | 30" - 42" | Cont.                         | Nil              | ✓               | 3'0"              |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | 30      | 30      | 3 1/2" x 3 1/2" x 40 | 30" - 42" | Cont.                         | 4'6" x 2'6"      | 20"             | 8'6"              |
| Deckhouses on Flush Deck Ships  |         |         |                      |           |                               |                  |                 |                   |

| Particulars of Closing Appliances (state if capable of being manipulated from both sides). |   |
|--|---|
| Poop Bulkhead  | ✓   |
| Raised Quarter Deck Bulkhead   | ✓   |
| Bridge, After Bulkhead   | 3" Storm boards in full height rivetted channels. |
| Bridge, Forward Bulkhead   | Int. fact   |
| Forecastle Bulkhead  | 3" Storm boards in full height rivetted channels. |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks                             | ✓   |
| Exposed Machinery Casings on Superstructure Decks  | Nil   |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances        | Steel hinged doors operated both sides.           |
| 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 shown on the following sketches:—



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

Vessel examined afloat, discharging.  
 It is proposed to place the vessel in dry dock prior to  
 departure from the port.  
 It is desired that the existing freeboards be re-assigned.

Builder's name and yard number

Jess<sup>n</sup> Short Bros N<sup>o</sup> 408

Names of sister ships

"PANDOWN CASTLE"

Owners

The Union Castle Mail Steamship Co<sup>l</sup>

Fee £

15 : 6 : 0

Received by me

(Sd) 28 MAR 1933



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