

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Port Bridge and Forecastle disconnected

(Type of Superstructures.)

| | | | | |
|--------------------------------|---|----------------------------------|------------------------------|--------------------------------|
| Ship's Name TEAKWOOD | Nationality and Port of Registry British London | Official Number 149878 | Gross Tonnage 6014 | Date of Build 1927-8 |
|--------------------------------|---|----------------------------------|------------------------------|--------------------------------|

Moulded Dimensions: Length 415.0 Breadth 54.5 Depth 31.50 *See w/c letter 21/1/32*

Moulded displacement at moulded draught = 85 per cent. of moulded depth 13710 tons

Coefficient of fineness for use with Tables .792

Port of Survey Newcastle

Date of Survey 13th 18th Jan. 1932

Name of Surveyor A. Urwin

Particulars of Classification *100A1 Carrying Petroleum in bulk. Fitted for oil fuel 8.27 F.P. above 150°F.

| | | |
|---|--|---|
| Depth for Freeboard (D) Moulded depth <u>31.50</u> Stringer plate <u>.04</u> Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>-</u> Depth for Freeboard (D) = <u>31.54</u> | Depth correction (a) Where D is greater than Table depth $(D - \text{Table depth}) R =$ $(31.54 - 27.67) \times 3 = + 11.61$ (b) Where D is less than Table depth (if allowed) $(\text{Table depth} - D) R =$ <u>-</u> If restricted by superstructures | Round of Beam correction Moulded Breadth (B) <u>54.50</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>13.08</u> Ship's Round of Beam = <u>13.5</u> Difference <u>.42</u> Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.42}{4} \times .573 = - .06$ |
|---|--|---|

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|-------------------------------------|-------------------------|--|------------|-------------------|----------------------|
| Poop enclosed | <u>107.75</u> | <u>107.75</u> | <u>7.6</u> | - | <u>107.75</u> |
| " overhang | | | | | |
| R.Q.D. enclosed | | | | | |
| " overhang | | | | | |
| Bridge enclosed... .. | <u>27.97</u> | <u>27.97</u> | <u>7.6</u> | - | <u>27.97</u> |
| " overhang aft | | | | | |
| " overhang forward | | | | | |
| Forecastle enclosed <u>100%</u> ... | <u>41.50</u> | <u>41.50</u> | <u>7.9</u> | - | <u>41.50</u> |
| " overhang <u>aft of cat</u> ... | <u>1.88</u> | <u>.11</u> | | | <u>.11</u> |
| Trunk aft | | | | | |
| " forward | | | | | |
| Tonnage opening aft | | | | | |
| " forward | | | | | |
| Total | <u>177.44</u> | <u>177.33</u> | | | <u>177.33</u> |

Standard Height of Superstructure 7.5

" " R.Q.D. 42

Deduction for complete superstructure 42

Percentage covered $\frac{S}{L} =$ 42.76

" " $\frac{S_1}{L} =$ 42.73

" " $\frac{E}{L} =$ 42.73

Percentage from Table, Line A. TANKER 33.73
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 33.73
(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required) Does not apply

Deduction = $42 \times .3373 = - 14.17$

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|----------------------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. | <u>51.5</u> | 1 | | <u>51.50</u> | <u>66.0</u> | <u>66.0</u> | 1 | | <u>66.00</u> |
| $\frac{1}{2}$ L from A.P. | <u>22.92</u> | 4 | | <u>91.68</u> | <u>28.5</u> | <u>28.5</u> | 4 | | <u>114.00</u> |
| $\frac{2}{3}$ L " | <u>5.66</u> | 2 | | <u>11.32</u> | <u>7.0</u> | <u>7.0</u> | 2 | | <u>14.00</u> |
| Amidships | - | 4 | | - | <u>0.0</u> | - | 4 | | - |
| $\frac{2}{3}$ L from F.P. | <u>11.33</u> | 2 | | <u>22.66</u> | <u>13.0</u> | <u>13.0</u> | 2 | | <u>26.00</u> |
| $\frac{1}{2}$ L " | <u>45.84</u> | 4 | | <u>183.36</u> | <u>51.0</u> | <u>51.0</u> | 4 | | <u>204.00</u> |
| F.P. | <u>103.0</u> | 1 | | <u>103.00</u> | <u>111.0</u> | <u>111.0</u> | 1 | | <u>111.00</u> |
| Total | | | | <u>463.52</u> | | | | | <u>535.00</u> |

Mean actual sheer aft = Excess
Mean standard sheer aft = Excess

Mean actual sheer forward = Excess
Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = Does not apply
" " aft of " = Does not apply

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.48}{18} (.75 - .2138) = - 2.13$

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 = <u>31.54</u> Summer freeboard = <u>5.57</u> Moulded draught (d) = <u>25.97</u> Correction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.49 (= 6 1/2")</u> Addition for Winter North Atlantic Freeboard (if required) = <u>4.15 (= 4 1/4")</u> | Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ <u>13335 tons</u> <i>see p.4</i> Tons per inch immersion at summer load water line $T =$ <u>45.42</u> Deduction = $\frac{\Delta}{40T}$ inches = <u>7.34 (= 7 1/4")</u> | TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{792 + 68}{1.36} = \frac{1472}{1.36}$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><u>11.61</u></td> <td></td> </tr> <tr> <td>Deduction for superstructures</td> <td></td> <td><u>14.17</u></td> </tr> <tr> <td>Sheer correction</td> <td></td> <td><u>2.13</u></td> </tr> <tr> <td>Round of Beam correction</td> <td></td> <td><u>.06</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> </table> | | + | - | Depth Correction | <u>11.61</u> | | Deduction for superstructures | | <u>14.17</u> | Sheer correction | | <u>2.13</u> | Round of Beam correction | | <u>.06</u> | Correction for Thickness of Deck amidships | | | Other corrections, scantlings, etc. | | |
|---|---|--|--|---|---|-------------------------|--------------|--|--------------------------------------|--|--------------|-------------------------|--|-------------|---------------------------------|--|------------|---|--|--|--|--|--|
| | + | - | | | | | | | | | | | | | | | | | | | | | |
| Depth Correction | <u>11.61</u> | | | | | | | | | | | | | | | | | | | | | | |
| Deduction for superstructures | | <u>14.17</u> | | | | | | | | | | | | | | | | | | | | | |
| Sheer correction | | <u>2.13</u> | | | | | | | | | | | | | | | | | | | | | |
| Round of Beam correction | | <u>.06</u> | | | | | | | | | | | | | | | | | | | | | |
| Correction for Thickness of Deck amidships | | | | | | | | | | | | | | | | | | | | | | | |
| Other corrections, scantlings, etc. | | | | | | | | | | | | | | | | | | | | | | | |

Probable Steel Plating

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, etc. and handle each side

| | | | |
|---|----------------|---------------------------------------|----------------|
| Tropical Fresh Water Line above Centre of Disc | <u>13 3/4"</u> | Tropical Fresh Water Freeboard | <u>13 3/4"</u> |
| Fresh Water Line " " | <u>7 1/4"</u> | Fresh Water " " | <u>7 1/4"</u> |
| Tropical Line " " | <u>6 1/2"</u> | Tropical " " | <u>6 1/2"</u> |
| Winter Line below " " | <u>6 1/2"</u> | Winter " " | <u>6 1/2"</u> |
| Winter North Atlantic Line " " | <u>10 3/4"</u> | Winter North Atlantic " " | <u>10 3/4"</u> |

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Lloyd's Register Foundation

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

| Description of Hatchway | No. of Upper Deck | O.T. Light Main Hatch | O.T. Summer Hatch | O.T. Cofferdam Hatch | O.T. Bunker Hatch |
|-------------------------|-------------------|-----------------------|-------------------|----------------------|-------------------|
| Dimensions of Hatchway | 8'-0" x 5'-9" | 6'-0" x 4'-0" | 6'-0" x 4'-0" | 24" x 16 1/2" Oval | 6'-0" x 4'-0" |
| COAMINGS | | | | | |
| Height above Deck | 2'-6" | 9" | 9" | 9" | 9" |
| Thickness | .44 | .50 | .50 | .50 | .50 |
| Stiffeners | .44 | .50 | .50 | .50 | .50 |
| Brackets, Stays | | | | | |
| HATCH BEAMS | | | | | |
| Number | 2'-10 1/2" | | | | |
| Spacing | 12 x 1 1/2 x 3/4 | | | | |
| Scantling and Sketch | x .50 | None | None | None | None |
| Bearing Surface | 3 1/2" | | | | |
| FORE AND AFTERS | | | | | |
| Number | | | | | |
| Spacing | | | | | |
| Unsupported Lengths | | | | | |
| Scantling and Sketch | None | None | None | None | None |
| Bearing Surface | | | | | |
| HATCH COVERS | | | | | |
| Material | Steel | Steel covers .64 | Steel covers .64 | Steel covers .40 | Steel covers .64 |
| Thickness | .60 | Secured by 14 | Secured by 14 | Secured by 4 | Secured by 14 |
| How fitted | W. T. Harkness | Lumber | Lumber | Lumber | Lumber |
| Bearing Surface | 4 x 4 | | | | |
| Spacing of Cleats | 4 | | | | |
| Number of Tarpaulins | 3 | | | | |

*Are wood fore and afters steel shod at all bearing surfaces?
 Are battens and wedges efficient and in good condition?
 Are tarpaulins in good condition and in accordance with rule requirements?
 Are lashings provided in accordance with rule requirements?

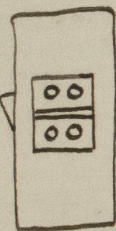
Particulars of fiddle, funnel and ventilator coamings:—
 The funnel and the E & B Room ventilators are on top of the machinery casing 7'-9" above top of Poop deck.
 Openings in fiddle top are fitted with gratings and steel covers secured by clips.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

Door 4'-9" x 25"
 19" sill



Two pump room houses of steel on freeboard deck 7'-6" high.
 Plating 1/4" stiffeners 3 x 2 1/2 x .30 spaced 24" apart.
 Steel door with lock, 2 hinges and 2 clips workable from both sides.
 Steel skylight on top 6'-0" x 4'-6", 2 steel flaps secured by clips and quadrant.

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

ON POOP
 2' 11" dia. 2'-6" x 3/8" to poop
 8 1/2" " " " " " "
 8 1/2" " " " " " "
 15" " " " " " "
 6" " " " " " "

ON FLE
 1' 6" dia. 3'-0" x 1/4" to upper peak (6 bolts)
 1' 6" " " " " " "
 1' 6" " " " " " "
 1' 6" " " " " " "

MEANS OF CLOSING. Wood plugs and canvas covers except O.F. bunkers = screw down metal caps.

FORWARD WELL
 1' 18" dia. 3'-0" x 1/4" to upper & lower holds
 1' 6" " " " " " "
 2' 10" " " " " " "
 2' 18" " " " " " "
 AFTER WELL
 2' 18" dia. 3'-0" x 3/8" to pump room
 2' 10" " " " " " "

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

ON FREEBOARD DECK
 1 pipe 3'-0" high to fore deep tank
 Air and sounding pipes to cofferdam are flush with deck and fitted with brass screw caps.

ON FLE
 2 pipes 18" high (1 to fore peak 1 to fore deep tank)

MEANS OF CLOSING
 Wood plugs

ing Ports:—

None

Particulars of Scuppers and Sanitary Discharge Pipes

Scuppers fitted to drain poop space, 3 each side of dished plate type,
 located by wood plugs in deck opening.

Sanitary Discharge Pipes

2 each side from forecabin discharging below freeboard deck
 2 " " Officers quarters " "
 5 port, 1 starboard from Eng'g " " below " "

All with wrought iron pipes and brass non-return valves at ship's side.

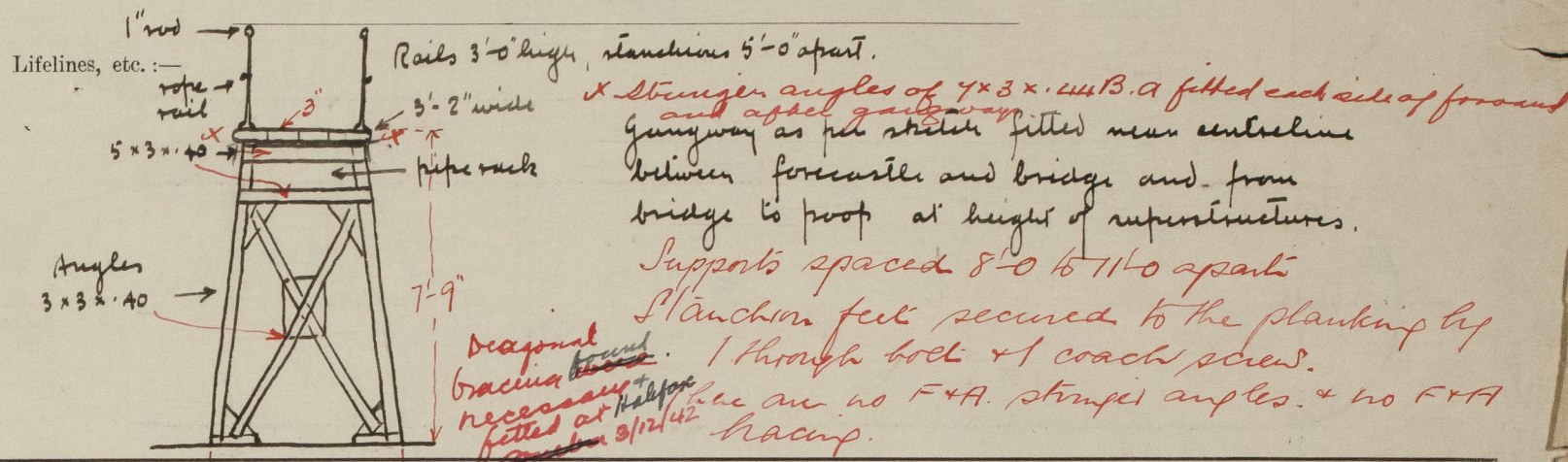
Particulars of Side Scuttles:

In forecabin sides 10" diam. fitted with hinged deadlights
 " " " " " " without deadlights
 " Bridge sides 9" " with hinged deadlights
 " " " " " " without deadlights
 " Poop side (Star & S) 9" diam with hinged deadlights

Particulars of Guard Rails:—

On Poop 3'-6" high, 3 rails, stanchions 5'-0" apart
 " Bridge 3'-6" " 3 " " 7'-0"
 " Forecabin 3'-6" " 2 " " 5'-3"

Particulars of Gangways, Lifelines, etc.:



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 | 120.78 | 3'-3" | 3'-0" x 1'-7" 5'-0" x 2'-0" | 5 8 | 103.7 sq. ft. | 98.13 sq. ft. |
| Forward Well | 116.78 119.78 | 3'-3" | 3'-0" x 1'-7" 5'-0" x 2'-0" | 5 8 | 103.7 sq. ft. | 94.88 sq. ft. |

State position of each freeing port
 (F. and A. position and height above deck edge)
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

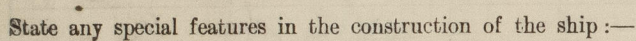
Particulars of Superstructures, Trunks, Casings, Deckhouses.

| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
|---|---------|---------|---|-----------|-------------------------------|-----------------------------|-----------------|-------------------|
| Poop Bulkhead | .42 | .42 | 9 x 3 x .50 B.A. | 30" | Brackets | 2 openings 4'-5" x 3'-9" | 2 1/2" | |
| Raised Quarter Deck Bulkhead | | | | | | 2 openings 4'-5" x 3'-9" | 21" | |
| Bridge, After Bulkhead | .26 | .26 | 3 x 2 1/2 x .30 | 30" | None | No openings | | |
| Bridge, Forward Bulkhead | .42 | .42 | 8 x 3 x .46 B.A. | 30" & 33" | Brackets | 4 doors 4'-8" x 2'-4" | 19" | |
| Forecabin Bulkhead | .26 | .26 | 3 x 2 1/2 x .30 | 27" | None | | | |
| Trunk, Aft | | | | | | | | |
| Trunk, Forward | | | | | | | | |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks | | | | | | | | |
| Exposed Machinery Casings on Superstructure Decks | .44 | .30 | 3 1/2 x 3 x .30 | 33" | Brackets | 4 doors 4'-9" x 2'-5" | 19" | 7'-9" |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | .30 | .30 | 4 x 3 1/2 x .30 longitudinal, 30" 12" webs | 8'-3" | Lugged | None | | 7'-6" |
| Deckhouses on Flush Deck Ships | | | | | | | | |

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

| | |
|---|--|
| Poop Bulkhead | Storm boards fitted full height in riveted channels |
| Raised Quarter Deck Bulkhead | |
| Bridge, After Bulkhead | Storm boards fitted full height in riveted channels |
| Bridge, Forward Bulkhead | No openings |
| Forecabin Bulkhead | 2 steel hinged doors to crew accommodation. fitted with latches and handle each side |
| Exposed Machinery Casings on Freeboard or Raised Quarter Decks | |
| Exposed Machinery Casings on Superstructure Decks | 4 steel hinged doors. fitted with latches and handle each side |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances | No openings |
| uses 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:—



OM 17