

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 53430

Computation of Freeboard for MOTORSHIP Steamer, Sailing Ship, Tanker
 having a raised quarter deck, bridge and funnel
 (Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>✓</u>	<u>British</u> <u>Lyttelton N.Z.</u>	<u>✓</u>	<u>✓</u>	<u>1933</u>

Moulded Dimensions: Length 175.0 Breadth 30.0 Depth 12.5
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 1119 ✓ tons
 Coefficient of fineness for use with Tables .702 ✓

Port of Survey Glasgow
 Date of Survey 27th April 1933
 Name of Surveyor H. Thomson
 Particulars of Classification + 100 A1
(contemplated)

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>12.5</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>✓</u> <u>(12.53 - 11.67) 1.346 = + 1.16</u> ✓	Moulded Breadth (B) <u>30.0</u>
Stringer plate <u>.35</u> <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>86</u>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>7.20</u> ✓
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>9.0</u> ✓
Depth for Freeboard (D) = <u>12.53</u>		Difference = <u>1.80</u> ✓
		Restricted to <u>1.80</u> ✓
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>$\frac{1.80}{4} \left(\frac{1.927}{17.8011} \right) = .09$</u> ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Deep enclosed					
" overhang					
R.Q.D. enclosed	<u>100.83</u>	<u>100.83</u>	<u>3'-9"</u>	<u>✓</u>	<u>100.83</u> ✓
" overhang	<u>none</u>				
Bridge enclosed	<u>11.0</u>	<u>11.0</u>	<u>7'-0"</u>	<u>✓</u>	<u>11.0</u> ✓
" overhang aft	<u>none</u>				
" overhang forward	<u>none</u>				
F'cle enclosed <u>equivalent</u>	<u>25.67</u>	<u>25.67</u>	<u>7'-0"</u>	<u>✓</u>	<u>25.67</u> ✓
" overhang	<u>5.24</u>	<u>2.62</u>	<u>7'-0"</u>	<u>✓</u>	<u>2.62</u> ✓
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>142.83</u>	<u>140.21</u>			<u>140.21</u> ✓

Standard Height of Superstructure	<u>6.0</u> ✓
" " R.Q.D.	<u>3.5</u> ✓
Deduction for complete superstructure	<u>23.5</u> ✓
Percentage covered $\frac{S}{L} =$	<u>81.61</u>
" " $\frac{S_1}{L} =$	<u>80.41.09</u>
" " $\frac{E}{L} =$	<u>80.41.09</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<u>75.43</u> ✓
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = $23.5 \times \frac{75.41}{100} =$	<u>-17.75.72</u>

SHEER CORRECTION.

actual height R.Q.D. = 3'-9"
 standard " " = 3'-3"
3"

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>27.5</u>	<u>1</u>		<u>27.5</u>	<u>30.0</u>	<u>33.0</u>	<u>1</u>		<u>33.0</u>
$\frac{1}{2}$ L from A.P.	<u>12.24</u>	<u>4</u>		<u>48.96</u>	<u>13.25</u>	<u>14.68</u>	<u>4</u>		<u>58.72</u>
$\frac{2}{3}$ L "	<u>3.03</u>	<u>2</u>		<u>6.06</u>	<u>3.25</u>	<u>3.63</u>	<u>2</u>		<u>7.26</u>
Amidships	<u>-</u>	<u>4</u>		<u>-</u>	<u>-</u>	<u>-</u>	<u>4</u>		<u>-</u>
$\frac{2}{3}$ L from F.P.	<u>6.06</u>	<u>2</u>		<u>12.12</u>	<u>6.5</u>	<u>6.5</u>	<u>2</u>		<u>13.0</u>
$\frac{1}{2}$ L "	<u>24.47</u>	<u>4</u>		<u>97.88</u>	<u>26.5</u>	<u>26.5</u>	<u>4</u>		<u>106.0</u>
F.P.	<u>55.0</u>	<u>1</u>		<u>55.0</u>	<u>60.0</u>	<u>60.0</u>	<u>1</u>		<u>60.0</u>
Total	<u>247.5</u>			<u>247.521</u>					<u>277.98</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{30.48}{18} \left(.75 - \frac{40.80}{175} \right) = -.58$ ✓

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>16.28</u> ✓
Summer freeboard =	<u>3.24</u> ✓
Moulded draught (d) =	<u>12.36</u> ✓

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $3.09 = 3$

Addition for Winter North Atlantic Freeboard (if required) = $3' + 2" = 5$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 1340$

Tons per inch immersion at summer load water line

$T = 10.2$

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

= 3.30

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.702 + .68}{1.36} = \frac{1.382}{1.36}$ ✓

	+	-
Depth Correction	<u>1.16</u> ✓	
Deduction for superstructures		<u>17.75</u> ✓
Sheer correction		<u>.58</u> ✓
Round of Beam correction		<u>.09</u> ✓
Correction for Thickness of Deck amidships	<u>45.00</u>	
Other corrections, scantlings, etc.		<u>.77</u> ✓
	<u>46.16</u>	<u>18.40</u>

Summer Freeboard = $47.12 - 1.3$

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

Tropical Fresh Water Line above Centre of Disc ...	<u>3 1/2"</u>
Fresh Water Line " " <u>limited</u> ...	<u>3 1/4"</u>
Tropical Line " " <u>limited</u> ...	<u>1/4"</u>
Winter Line below " " ...	<u>3"</u>
Winter North Atlantic Line " " ...	<u>5"</u>

Tropical Fresh Water Freeboard ...	<u>3'-11 1/4"</u>	<u>3'-11 1/4"</u>
Fresh Water " " ...	<u>3'-7 3/4"</u>	<u>3'-7 3/4"</u>
Tropical " " ...	<u>3'-11"</u>	<u>3'-11"</u>
Winter " " ...	<u>4'-2 1/4"</u>	<u>4'-2 1/4"</u>
Winter North Atlantic " " ...	<u>4'-4 1/4"</u>	<u>4'-4 1/4"</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway									
Dimensions of Hatchway									
COAMINGS	Height above Deck ...								
	Thickness { Sides ...								
	Stiffeners ...								
	Brackets, Stays ...								
HATCH BEAMS	Number								
	Spacing								
	Scantling and Sketch ...								
	Bearing Surface								
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths ...								
	Scantling* and Sketch ...								
HATCH COVERS	Material								
	Thickness								
	How fitted								
	Bearing Surface								
Spacing of Cleats									
Number of Tarpaulins									
<p>*Are wood fore and afters steel shod at all bearing surfaces?</p> <p>Are battens and wedges efficient and in good condition?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements?</p> <p>Are lashings provided in accordance with rule requirements?</p>									

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles :—

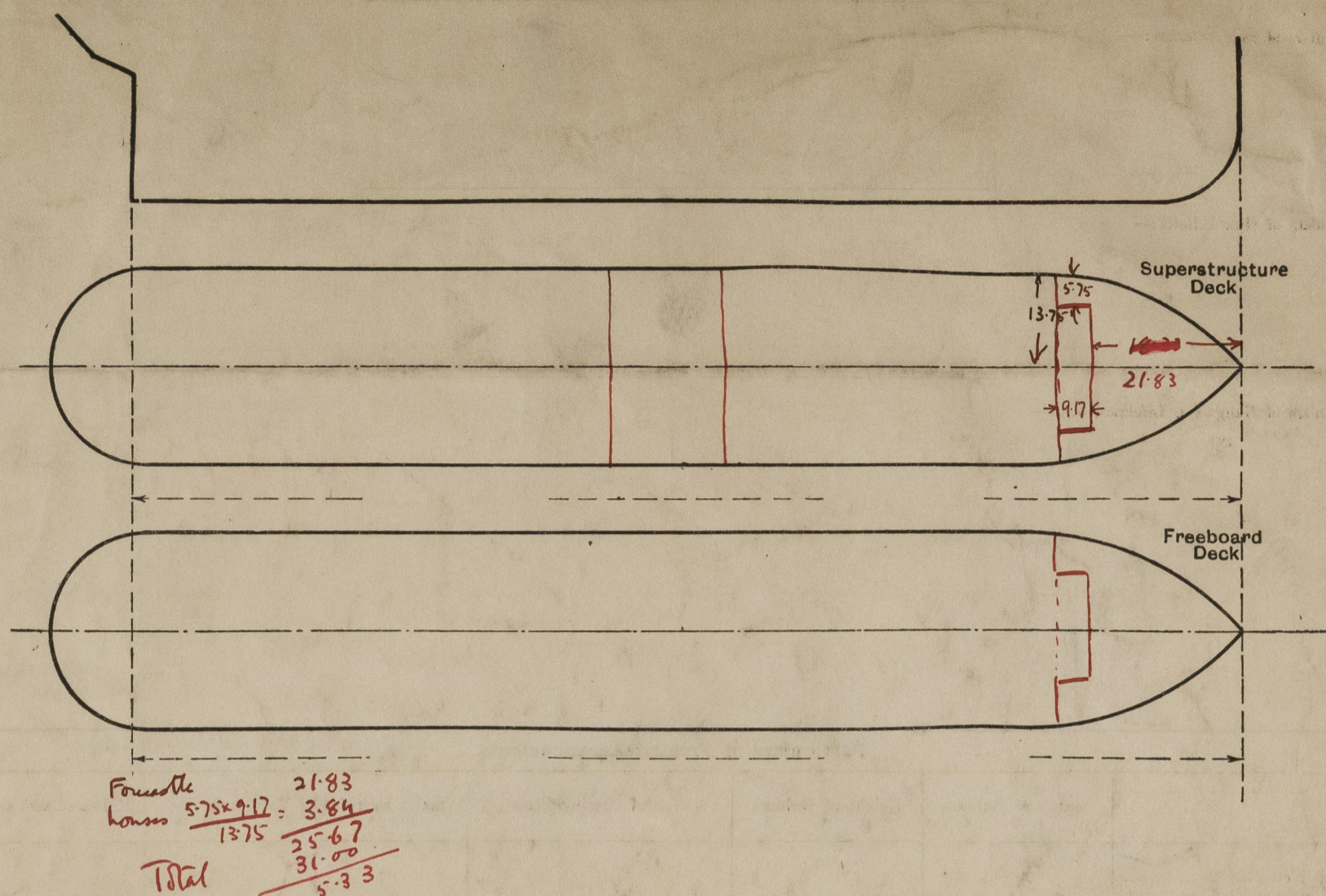
Particulars of Guard Rails :—

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						
Forward Well						
<p>State position of each freeing port } After Well :—</p> <p>(P. and A. position and height above deck edge) } Forward Well :—</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—</p> <p>Additional area where sheer is less than standard.</p>						

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								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks								
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								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks								
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:—

Copies of the plans of Midships Section, Profile & deck plans, which are at present under consideration in this office, are forwarded herewith, for reference.

A copy of the Builder's letter is also enclosed and attention is directed to the last paragraph of that letter.

Builder's name and yard number SCOTT & SONS No 324

Names of sister ships NONE

Owners CANTERBURY STEAM SHIPPING CO LTD.

Fee £ : ✓ :

Received by me



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