

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **31592**
(For London Office only.)

18227

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Forcastle, Bridge & R. Q.D.

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
" BARRA HEAD "	British Leith	148319	671	1930-2 mo

Moulded Dimensions: Length 176' Breadth 28'-4" Depth 13'-6"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1120 tons
Coefficient of fineness for use with Tables .685 .709

Port of Survey Leith
Date of Survey 24/6/32
Name of Surveyor Chas. R. Rowcliffe
Particulars of Classification *100 AT

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>13.50</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(13.53 - 11.73) 1.354 = 2.44</u>	Moulded Breadth (B) <u>28.33</u> Standard Round of Beam = $\frac{B \times 12}{50} = \underline{6.80}$ Ship's Round of Beam = <u>7.50</u> Difference <u>excess .70</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Restricted to
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.70}{4} \times .2372 = \underline{(-).04}$
Depth for Freeboard (D) = <u>13.53</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	<u>101'-4"</u>	<u>101.33</u>	<u>4'-3"</u>	-	<u>101.33</u>
" overhang ...	✓				
Bridge enclosed ...	<u>11'-0"</u>	<u>11.00</u>	<u>7'-2"</u>	-	<u>11.00</u>
" overhang aft ...	✓				
" overhang forward	✓				
Fore enclosed <u>equiv.</u>	<u>23'-8"</u>	<u>20.84</u>	<u>6'-11"</u>	-	<u>20.84</u>
" overhang ...	<u>2'-13"</u>	<u>1.06</u>			<u>1.06</u>
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" " forward	✓				
Total ...	<u>135.33</u>	<u>134.26</u>			<u>134.26</u>

Standard Height of Superstructure 6.0
" " R.Q.D. 3.51
Deduction for complete superstructure 23.60
Percentage covered $\frac{S}{L} = \underline{76.88}$ ✓
" " $\frac{S_1}{L} = \underline{76.28}$ ✓
" " $\frac{E}{L} = \underline{76.28}$ ✓
Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 70.73 ✓
Percentage from Table, Line B.
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = .7073 x 23.60 = 16.69 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>27.60</u>	1		<u>27.60</u>	<u>33"</u>	<u>41.88</u>	1		<u>41.88</u>
$\frac{1}{4}$ L from A.P. ...	<u>12.28</u>	4		<u>49.12</u>	<u>14"</u>	<u>18.64</u>	4		<u>74.56</u>
$\frac{3}{8}$ L " ...	<u>3.04</u>	2		<u>6.08</u>	<u>3.5"</u>	<u>4.61</u>	2		<u>9.22</u>
Amidships ...	-	4		-	0	-	4		-
$\frac{3}{8}$ L from F.P. ...	<u>6.07</u>	2		<u>12.14</u>	<u>6"</u>	<u>6.11</u>	2		<u>12.22</u>
$\frac{1}{4}$ L " ...	<u>24.57</u>	4		<u>98.28</u>	<u>24.5"</u>	<u>24.49</u>	4		<u>97.96</u>
F.P. ...	<u>55.20</u>	1		<u>55.20</u>	<u>57"</u>	<u>57.00</u>	1		<u>57.00</u>
Total ...				<u>248.42</u>					<u>292.84</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{44.42}{18} \left(.75 - \frac{.3656}{.3844} \right) = \underline{.90 (-)}$

If limited on account of midship superstructure. -

If limited to maximum allowance of 1½ ins. per 100 ft. -

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 17.48 Ft.
Summer freeboard = 4.62
Moulded draught (d) = 13.16

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.29 3½Addition for Winter North Atlantic Freeboard (if required = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = \underline{1355 \text{ tons}}$

Tons per inch immersion at summer load water line

 $T = \underline{10.05 \text{ tons}}$ Deduction = $\frac{\Delta}{40T}$ inches= 3.433½"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>2.44</u>	
Deduction for superstructures ...		<u>16.69</u>
Sheer correction ...		<u>.90</u>
Round of Beam correction ...		<u>.04</u>
Correction for <u>HEIGHT OF RAISED QUARTER</u> Deck amidships ...	<u>51.00</u>	
Other corrections, scantlings, etc. ...		

53.44 17.63 (+) 35.81
Summer Freeboard = 55.42

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, RAISED QUARTER, Steely Deck: -

Tropical Fresh Water Line above Centre of Disc ...	<u>6"</u>
Fresh Water Line " " ...	<u>3½"</u>
Tropical Line " " <u>LIMITED</u> ...	<u>2½"</u>
Winter Line below " " ...	<u>3½"</u>
Winter North Atlantic Line " " ...	<u>5½"</u>

Tropical Fresh Water Freeboard ...	<u>4'-4½"</u>
Fresh Water " " ...	<u>4'-1½"</u>
Tropical " " <u>limited</u> ...	<u>4'-4"</u>
Winter " " ...	<u>4'-5"</u>
Winter North Atlantic " " ...	<u>4'-10¼"</u>
MARKING FORM	<u>5'-0¼"</u>

29 JUN 1932

MARKING FORM

RECEIVED 12 AUG 1932

RECEIVED

-5 MAR 1935

Barra Head

Particulars of Scuppers and Sanitary Discharge Pipes -

[illegible]

3 P+S in Horncastle $8\frac{1}{2}$ chs, fitted with doublelights
1 P+S in Bridge $9\frac{1}{2}$ chs.

Guard rail on Forces etc 3'-3" high, 2 rails 18" apart, stanchions 4 ft apart.
Bulwark on Bridges 3 ft high, strongly constructed, in efficient condition.

Scam' away from ladder to hatch, 2 supports at hatch & 1st for life line
P. 2nd, in Well.

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 ... <i>R.O.D.</i> ...	<i>101'-4"</i>	<i>3'-3"</i>	<i>{ 36" x 18" 33 x 18"</i>	<i>{ 1 4 }</i>	<i>21.0 16.5</i>	<i>20.4 20.2</i>
Forward Well	<i>40'-8" 41</i>	<i>3'-9"</i>	<i>36" x 20"</i>	<i>3</i>	<i>15 15</i>	<i>10 10</i>
<p>State position of each freeing port } After Well : <i>R.O.D. 7, 24, 41, 58, 79' from Briny's Bulkhead, 9" above deck</i> (F. and A. position and height above deck edge) } Forward Well : <i>9, 21, 33, from Bulkhead, 9" above deck.</i></p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— <i>R.O.D. 2 rails 7' apart Well Shutters hung 8' from top.</i></p> <p>Additional area where sheer is less than standard.</p>						

Particulars of Flush Bunker Scuttles:— 6

Particulars of Companionways :—

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

3 Vents on Forecass till 7" dia 36" x 3" coaming
1 " " in Well 14" " 60" x 35" " 7
4 " " on Bridge 7 " 16" x 3 " "
2 " " R.G.D 14" " 36" x 35" "
2 Goose neck vents on Forecass till 3 1/2" dia 7" H

All vents can be closed with wood plugs
& canvas covers.

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

1	dir pipe on forecastle	3"	dir	20"	high
1	"	"	in well	18"	" 32"
2	"	"	on bridge	3 1/2"	" 28"
1	"	"	" R.Q.D.	4 1/2"	" 28"
2	"	"	"	3 1/2"	" 14"

Wood plugs provided for closing

Particulars of Gangway Cargo and Coaling Ports:—

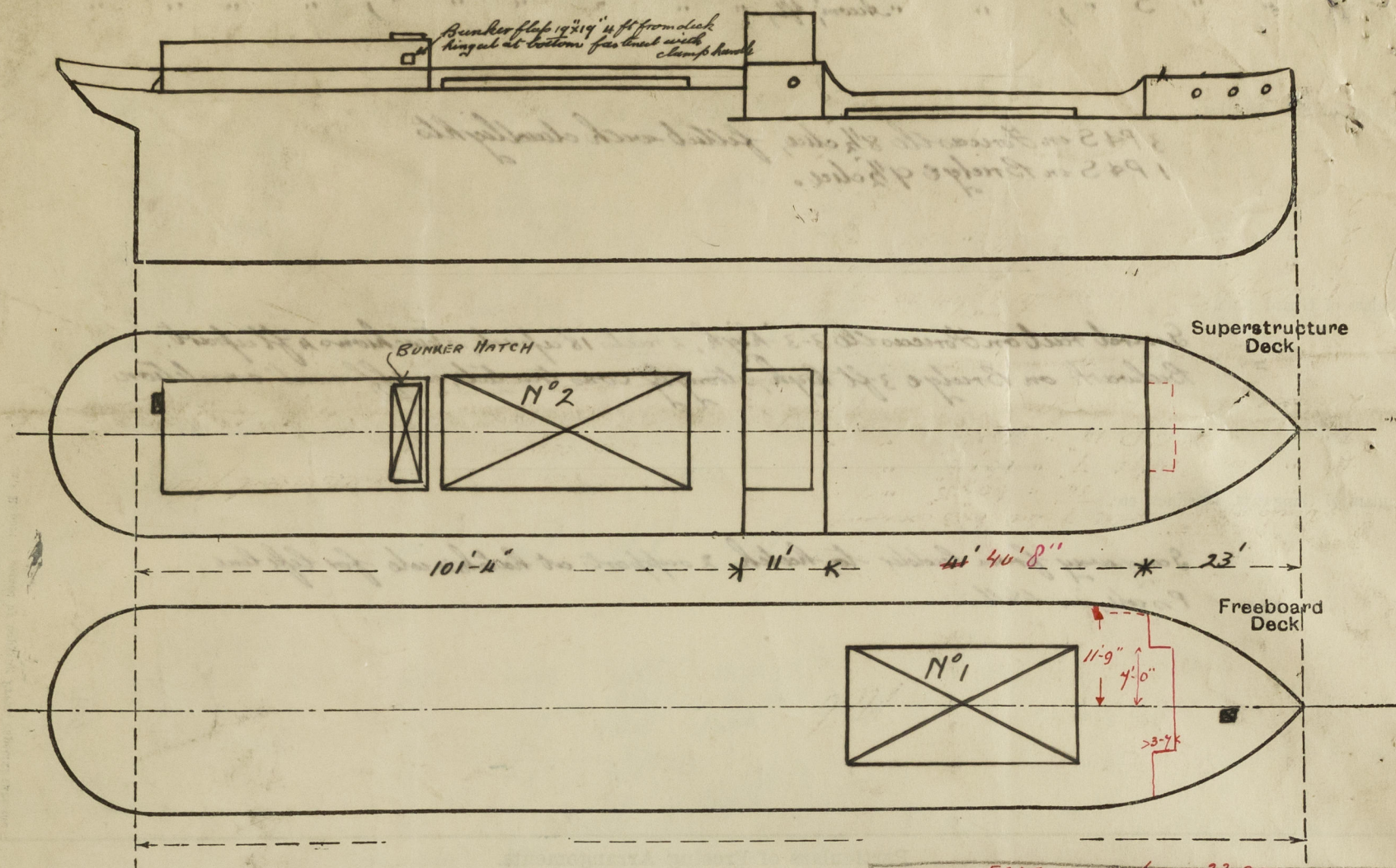
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead ...	✓		3"x3" Ls	3'-9"	nil	(4) 8" Ports	13" above RD	4'-3"
Bridge, After Bulkhead	✓	.3"	(3) 15" Webs		Long 2 top & Bottom Brackets	(4) 8" Ports	4'-7" above Deck	7'-2"
Bridge, Forward Bulkhead34"	.3"	6"x3" BA	30"	Top & Bottom	(4) 8" Ports	18"	6'-11"
Forecastle Bulkhead	✓	.25"	3½"x3" Ls	As required	nil	(2) 22"x48" (2) 14"x56"	18"	7'-0"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks3"	.25"	3½"x2½" Ls	30"	Brackets to casing beams	(4) 22"x48"	20"	7'-0"
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	✓ } no openings
Bridge, After Bulkhead	✓ }
Bridge, Forward Bulkhead	✓ no openings
Forecastle Bulkhead	2 Steel doors, strongly constructed, capable of being manipulated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	2 Wood " " " " " " " " " " " "
Exposed Machinery Casings on Superstructure Decks	Habitability & Engine room doors P&S, ops' tel, capable of being manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships	✓

Boris Hood

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:—



$FCLE: L = 23.00$
 $DEDUCT: \frac{4 \times 3.58}{11.75} = 2.13 \text{ } 0.4$
 $EQUIV. L = 20.87$

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

The survey has been held afloat & confined to an examination of the means of closing the openings in the deck & sides of the vessel.

Builder's name and yard number Goolle S. B. & Repg Co (1927) Ltd. Goolle N°265.

Names of sister ships

Owners A. F. Henry & Mess Gregor Ltd

Fee £ 6 : 16 : 0

Received by me



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