

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

22 JUN 1932 Index No.

(For London Office only.)

10877

Computation of Freeboard for Steamer, ~~Sailing Ship, Tug~~
 having *Raised quarter decks, bridge & fore-castle.*

Port of Survey *Belfast.*

Date of Survey *June 17th & 20th*

Name of Surveyor *Jas H. Remm*

Particulars of Classification *+ 100 A1*
Ss. Rel 3rd No. 3-11.30

(Type of Superstructures.) *Mid T Lts 31/1/48*

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"CLYDEBRAE"	<i>British Belfast</i>	<i>98681</i>	<i>534</i> <i>515</i>	<i>1891-12</i>

Moulded Dimensions: Length *174.83'* Breadth *26.5'* Depth *13.0'*
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *1060* tons
 Coefficient of fineness for use with Tables *.725*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>13.0</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(13.04 - 11.66) 1.345 = + 1.86"</i>	Moulded Breadth (B)
Stringer plate <i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{26.5 \times 12}{50} = 6.36"$
Sheathing on exposed deck	If restricted by superstructures	Ship's Round of Beam = <i>8"</i>
$T \left(\frac{L-S}{L} \right) =$		Difference = <i>1.64"</i>
Depth for Freeboard (D) = <i>13.04</i>		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.64^2}{4} \times 3266 = -$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	✓					Standard Height of Superstructure <i>6.00</i>
" overhang	✓					" " R.Q.D. <i>3.499</i>
R.Q.D. enclosed	<i>86'-6"</i>	<i>86.50</i>	<i>4'-0"</i>	✓	<i>86.50</i>	Deduction for complete superstructure <i>23.48</i>
" overhang	✓					Percentage covered $\frac{S}{L} = \frac{70.31\%}{}$
Bridge enclosed	<i>10'-6"</i>	<i>10.50</i>	<i>7'-6"</i>	✓	<i>10.50</i>	" " $\frac{S_1}{L} = \frac{67.34\%}{}$
" overhang aft	✓		<i>+ 2 1/2" wood</i>			" " $\frac{E}{L} = \frac{67.34\%}{}$
" overhang forward	✓					Percentage from Table, Line A. <i>58.48%</i>
" enclosed open	<i>25'-11"</i>	<i>20.72</i>	<i>6'-7"</i>	✓	<i>20.72</i>	(corrected for absence of fore-castle (if required))
" overhang	✓		<i>+ 2 1/2" wood</i>			Percentage from Table, Line B.
" aft	✓					(corrected for absence of fore-castle (if required))
" forward	✓					Interpolation for bridge less than 2L (if required)
" bridge opening aft	✓					Deduction = <i>23.48 x .5848 = - 13.72"</i>
" forward	✓					
Total	<i>122.92</i>	<i>117.72</i>			<i>117.72</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<i>27.48</i>	1		<i>27.48</i>	<i>21"</i>	<i>21.00</i>	1		<i>27.00</i>	Mean actual sheer aft = <i>Deficient.</i>
1/4 L from A.P.	<i>12.23</i>	4		<i>48.92</i>	<i>6"</i>	<i>5.25</i>	4		<i>39.60</i>	Mean actual sheer forward = <i>Deficient.</i>
1/2 L "	<i>3.02</i>	2		<i>6.04</i>	<i>1 1/2"</i>	<i>0.00</i>	2		<i>2.60</i>	Mean standard sheer forward
Amidships	✓	4		✓	✓	✓	4		✓	Length of enclosed superstructure forward of amidships = <i>.055</i>
3/4 L from F.P.	<i>6.05</i>	2		<i>12.10</i>	<i>2 7/8"</i>	<i>5.75</i>	2		<i>11.50</i>	" " aft of " = <i>.500</i>
1/4 L "	<i>24.46</i>	4		<i>97.84</i>	<i>22.0"</i>	<i>22.75</i>	4		<i>91.00</i>	
F.P.	<i>54.96</i>	1		<i>54.96</i>	<i>53.0"</i>	<i>53.00</i>	1		<i>53.00</i>	
Total				<i>247.34</i>					<i>224.70</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{2264}{18} \left(.75 - \frac{3515}{2L} \right) = + .50"$

If limited on account of midship superstructure.

Actual R.Q.D. Height = *48"*
 Standard R.Q.D. Height = *42"*
 Difference = *6"*

Standard Sheer Forward

6.05	3	18.15	5.75	3	17.25
24.46	3	73.38	22.75	3	68.25
54.96	1	54.96	53.00	1	53.00
		<i>146.49</i>			<i>138.50</i>

146.49 - 138.50 = 7.99

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)		19.02
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient	$\frac{68 + .725}{1.36} = \frac{1.405}{1.36}$	19.65
Depth to Freeboard Deck = 13.04	$\Delta =$	Depth Correction	+ 1.86	-
Summer freeboard = .69	Tons per inch immersion at summer load water line	Deduction for superstructures	- 13.72	
Moulded draught (d) = 12.35	T =	Sheer correction50	-
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.09 = 3"	Deduction = $\frac{\Delta}{40T}$ inches = 3"	Round of Beam correction... ..	- 13	
Addition for Winter North Atlantic Freeboard (if required) = 2"		Correction for Thickness of Deck amidships	-	-
		Other corrections, scantlings, etc.	-	-
			2.36	13.85
			Summer Freeboard =	8.15"

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

Tropical Fresh Water Line above Centre of Disc <i>6"</i>	Tropical Fresh Water Freeboard <i>0'-8 1/2"</i>
Fresh Water Line " " <i>3"</i>	Fresh Water " " <i>0'-5 1/2"</i>
Tropical Line " " <i>3"</i>	Tropical " " <i>0'-5 1/2"</i>
Winter Line below " " <i>3"</i>	Winter " " <i>0'-1 1/2"</i>
Winter North Atlantic Line " " <i>5"</i>	Winter North Atlantic " " <i>1'-1 1/4"</i>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		N. 1.	N. 2.	N. 3.	Bunker on Casings top	After Peak			
Dimensions of Hatchway		9' x 10'	26' x 13'	19' x 12'	4' x 12'	2' x 2'			
COAMINGS	Height above Deck	30"	30"	30"	6" BA	6" x 3" angle			
	Thickness Sides	40"	40"	40"					
	Thickness Ends	40"	40"	40"					
	Stiffeners	1 ea. side	2 ea. side	1 ea. side					
HATCH BEAMS	Number	2	2	1					
	Spacing	8'-3"	8'-3"	9'-6"					
	Scantling and Sketch	7" x 7" D	7" x 7" D	7" x 7" D					
	Bearing Surface	2 1/2"	2 1/2"	2 1/2"					
FORE AND AFTERS	Number	1	3	3					
	Spacing	5'-0"	3'-3"	3'-0"					
	Unsupported Lengths	8'-8"	8'-6"	9'-1"					
	Scantling* and Sketch	5" x 7" D	7" x 7" D	7" x 7" D					
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Steel			
	Thickness	3"	2 1/2"	3"	2 1/2"	3"			
	How fitted	Laid in	Laid in	Laid in	Laid in	Angled			
	Bearing Surface	2"	2"	2"	2"	2"			
Spacing of Cleats		24"-29"	30"	32"	27"	18"			
Number of Tarpaulins		2	3	3	1				

*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 & ventilator coamings of steel efficient. do openings protected by strong steel hinged covers. Engine room skylight of steel strong.

Particulars of Flush Bunker Scuttles:—

none

Particulars of Companionways:— *Steel companion, riveted, (situated under fore-castle head leading to crew's quarters below freeboard deck.) with hinged wooden door, panelled 1 3/4" x 3/4" thick, running from both sides. Door sill 15" high.*

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

Position	Space to	Height	dia.	Thickness	Deck Att.	No. Closing Appliances
Fore Dk.	Fore Dk.	12"	6"	30"	Bolted	2. <i>Wooden plugs & canvas covers</i>
Freeboard Dk.	do	42"	18"	40"	Riveted	2. <i>Wooden plug & canvas covers</i>
R. Q. Dk.	do	42"	18"	40"	do	1. <i>Red case with canvas cover</i>
Bridge Dk.	Bridge Intert.	32"	9"	30"	Bolted	2. <i>Secured down with mushroom vents</i>
do	do	6"	6"	25"	do	1. <i>do</i>
Freeboard Dk.	Below Fore Dk.	12"	9"	25"	Bolted	1. <i>do</i>

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

Position	Space to	Height	dia.	Material	No. Closing Appliances
Foreboard Dk.	F.P. Tank	6"	3"	W.I.	1. <i>with canvas covers</i>
do	d.b. tank	36"	2"	"	2. <i>do</i>
do	do	3'-6"	2"	"	2. <i>do</i>

Particulars of Gangway Cargo and Coaling Ports:—

none

Particulars of Scuppers and Sanitary Discharge Pipes:—

Particulars of Side Scuttles:— *To crew's quarters. Below freeboard deck. Efficient side scuttles fitted with hinged deadlights.*

Particulars of Guard Rails:— *On fore-castle decks only. 3' high. Rows stanchions spaced 4'-0" apart. R. Q. Dk., bridge deck & freeboard deck steel bulwarks efficiently supported.*

Particulars of Gangways, Lifelines, etc.:— *Crew's quarters forward. Provision is made for fitting portable stanchions to hatch side coamings for manilla lifeline post side only, for crew's access to fore quarters. (Portable stanchions on board).*

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 R. Q. Dk.	36'-6"	3'-4"	2'-3" x 1'-9" 2'-6" x 1'-10" 4' x 5' scupper	3 }	17' 25"	17' 3"
Forward Well Freeboard Dk.	52'-5"	4'-3"	2'-3" x 1'-9" 4' x 5' scupper	3 }	12' 4"	11' 3/4"

State position of each freeing port (F. and A. position and height above deck edge) } After Well:— *See sketch.*
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *Steel rivetted shutters.*

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

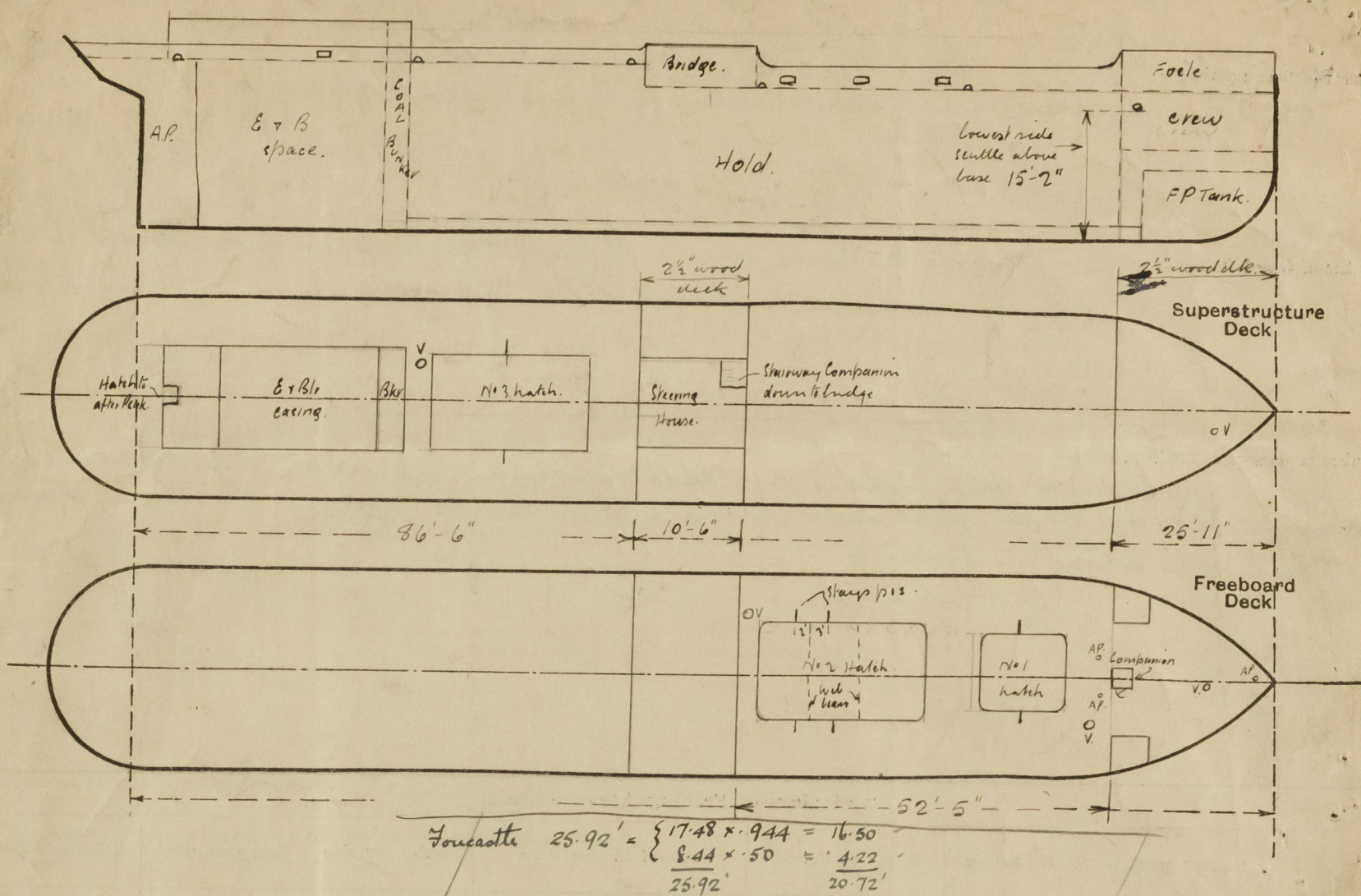
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead	30	30	3 x 3 x 36 L	30"	✓	✓	✓	4'-0"
Bridge, After Bulkhead	30	30	3 x 3 x 36 L	30"	✓	✓	✓	3'-6"
Bridge, Forward Bulkhead	40	30	3 x 3 x 36 L	30"	✓	✓	✓	7'-3 1/2"
Fore-castle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	30	30	2 1/2 x 2 1/2 x 30	25" x 27"	Top Bkts Bottom. Dk. cov.	4 @ 4' x 21"	18"	6'-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	<i>none openings</i>
Bridge, After Bulkhead	<i>none</i>
Bridge, Forward Bulkhead	<i>none openings</i>
Fore-castle Bulkhead	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	<i>hinged steel doors running from both sides.</i>
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships	✓

Clyde

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:—

Vessel examined in drydock. - Decks, casings, hatchways, coamings, ventilators, & hold examined.
 Collision damage repairs in progress to bow & side shell plating.

OMIT

Builder's name and yard number *Scott & Co. Bowling*

Names of sister ships ☒

Owners *H. Craig & Co. Belfast*

Fee £ *6 : 16 : 0*

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