

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having

Forecastle, Bridge & R.Q.D.

Port of Survey

Spwisch.

(Type of Superstructures.)

Date of Survey

6-1-33.

Ship's Name

Nationality and Port of

Registry

Official Number

Gross Tonnage

Date of Build

*"CROSSBILL"**British**140103**309.**1920-12*

Name of Surveyor

J. J. R. M.

Moulded Dimensions: Length

130

Breadth

23

Depth

10'-6" 520

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

548

tons

Coefficient of Fineness for use with Tables

719.82

Particulars of Classification

*+100 A.1.**S.S. Lon. No 2-29.*

Depth for Freeboard (D)

Depth correction

Round of Beam correction

Moulded depth *10.5*Stringer plate *.05*

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) =

10.55(a) Where D is greater than Table depth
(D-Table depth) R = $(10.55 - 8.67) \times 1 = +1.88$ (b) Where D is less than Table depth (if allowed)
(Table depth-D) R =

If restricted by superstructures

Moulded Breadth (B)

*23.00*Standard Round of Beam = $\frac{B \times 12}{50} =$ *5.52*

Ship's Round of Beam

6.00

Difference

.48

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.48}{4} \times \left(1 - \frac{4.654}{130} \right) = -.06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Boop enclosed					
" overhang					
R.Q.D. enclosed	<i>42.6</i>	<i>42.60</i>	<i>3'-0"</i>	<i>3.2</i>	<i>39.94</i>
" overhang					
Bridge enclosed	<i>8.75</i>	<i>8.75</i>	<i>7'-0"</i>		<i>8.75</i>
" overhang aft					
" overhang forward	<i>17.06</i>	<i>17.06</i>	<i>7'-0"</i>		<i>17.06</i>
Ele enclosed	<i>18.75</i>	<i>18.75</i>	<i>7'-0"</i>		<i>18.75</i>
" overhang	<i>3.19</i>	<i>3.19</i>	<i>7'-0"</i>		<i>3.19</i>
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<i>70.60</i>	<i>69.50</i>			<i>66.54</i>

Standard Height of Superstructure

6.00

" " R.Q.D.

3.20

Deduction for complete superstructure

*19.00*Percentage covered $\frac{S}{L} =$ *54.31*" " $\frac{S_1}{L} =$ *53.46*" " $\frac{E}{L} =$ *51.41*

Percentage from Table, Line A.

33.94

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

✓

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $19 \times .3394 = -6.45$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>23.00</i>	1		<i>23.00</i>	<i>23</i>	<i>23.00</i>	1		<i>23.00</i>
$\frac{1}{4}$ L from A.P.	<i>10.23</i>	4		<i>40.92</i>	<i>9.48</i>	<i>9.48</i>	4		<i>37.92</i>
$\frac{2}{4}$ L "	<i>2.53</i>	2		<i>5.06</i>	<i>2.37</i>	<i>2.37</i>	2		<i>4.74</i>
Amidships	<i>—</i>	4		<i>—</i>	<i>—</i>	<i>—</i>	4		<i>—</i>
$\frac{3}{4}$ L from F.P.	<i>5.06</i>	2		<i>10.12</i>	<i>3.36</i>	<i>3.36</i>	2		<i>6.72</i>
$\frac{1}{4}$ L "	<i>20.46</i>	4		<i>81.84</i>	<i>13.43</i>	<i>13.43</i>	4		<i>53.72</i>
F.P.	<i>46.00</i>	1		<i>46.00</i>	<i>34</i>	<i>34.00</i>	1		<i>34.00</i>
Total				<i>206.94</i>					<i>160.10</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{46.84}{18} \left(.75 - \frac{27.15}{130} \right) = +1.25$

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 =

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) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

*719.680**1.36**1.36**1.36*

Depth Correction

1.88

Deduction for superstructures

6.45

Sheer correction

1.25

Round of Beam correction

.06

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

*3.13**6.57**3.38**9.94*

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

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " "

Winter North Atlantic Line " "

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "



Winter " "

Winter North Atlantic " "

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		...	h ² 1.						
Dimensions of Hatchway		...	41'-6" x 14'-0"						
COAMINGS	Height above Deck	...	3'-6"						
	Thickness	{ Sides	44						
		{ Ends	40						
	Stiffeners	...	7" B.A.						
	Brackets, Stays	...	3- B.A.s						
HATCH BEAMS	Number	...	3						
	Spacing	...	10'-0"						
	Scantling and Sketch	...	7" Plank 20" x 38" Double angle 7 x 13. J.L. 3" x 3" x .42"						
	Bearing Surface	...	3"						
FORE AND AFTERS	Number	...	one center 2 sides						
	Spacing	...	10'-0" 3'-6"						
	Unsupported Lengths	...	10'-0" do						
	Scantling* and Sketch	...	8' x 9"  8 1/2' x 7 1/2" 						
	Bearing Surface	...	3" 3"						
HATCH COVERS	Material	...	P.P.						
	Thickness	...	2 1/2"						
	How fitted	...	P & S.						
	Bearing Surface	...	2"						
Spacing of Cleats		...	24"						
Number of Tarpaulins		...	3						
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>Yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>Yes</i></p>									

Particulars of fiddley, funnel and ventilator coamings:—

Funnel & ventilators in an efficient condition.
Fiddley gratings fitted with steel hinged flaps.
L.R. skylight strongly constructed of steel.

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:—

Bridge.

Door opening 21" x 5'-9" sill 4". Wood door hinged 1" thick
pannelled with top panel fitted with glass 1/8" thick.
Door operated from both sides.

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

Forecastle deck.

1- 6" - 24" coaming to Hold.

1- 4" - 24" " to Forecastle.


Bridge.


1- 6" - 18" " to Hold.

2- 5" screwed cap to Saloon.

all units fitted with
wood plugs & canvas covers.

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

Forecastle deck. 1- 2" Air pipe  1" high. to Fore Peak.

1- 3" Air pipe  3" high to After Peak.

wood plugs fitted

Particulars of Gangway Cargo and Coaling Ports:—

none.



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Particulars of Scuppers and Sanitary Discharge Pipes:—

All Scuppers are fitted above the Freeboard Deck.
One Sanitary discharge pipe & fitted with Storm valve.

Particulars of Side Scuttles:—

Forecastle side scuttles fitted with lead lights.

Particulars of Guard Rails:—

Forecastle. 3 feet high, 2 rails, stanchions 4 feet apart.

Particulars of Gangways, Lifelines, etc.:—

~~no arrangements made.~~

Suitable provision made for rigging lifelines which are available for use in any part of the ship which might have to be used by the crew in the regular working of the ship.

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	42.10	3'-3"	2'-6" x 1'-6"	23.	10 3/4 75 sq ft	10.76 sq ft
Forward Well	59.4' 62.90	3'-7"	2'-9" x 1'-7"	3	13.08 sq ft	12.44 sq ft
State position of each freeing port After Well:— 6' 33" from Aft. B. Bulk. (F. and A. position and height above deck edge) Forward Well:— 47' 24" 8' for Ford. B. Bulk. Height above deck. 7 1/2" State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged 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	✓							
Bridge, After Bulkhead	✓	40	3" x 3" x 30	32"	none	none		
Bridge, Forward Bulkhead	42	40	4" x 3" x 35 Laminated.	30" 27"	Brackets T & B.	none		
Forecastle Bulkhead	✓	40	3" x 3" x 30	30"	none	2'-0" x 4'-0"	20"	7'-0"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	40	30	3" x 2 1/2" x 40	32"	Brackets at top & bottom to beam.	2'-0" x 4'-0"	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	Still hinged doors, operated both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Still hinged doors, operated both sides.
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships	✓

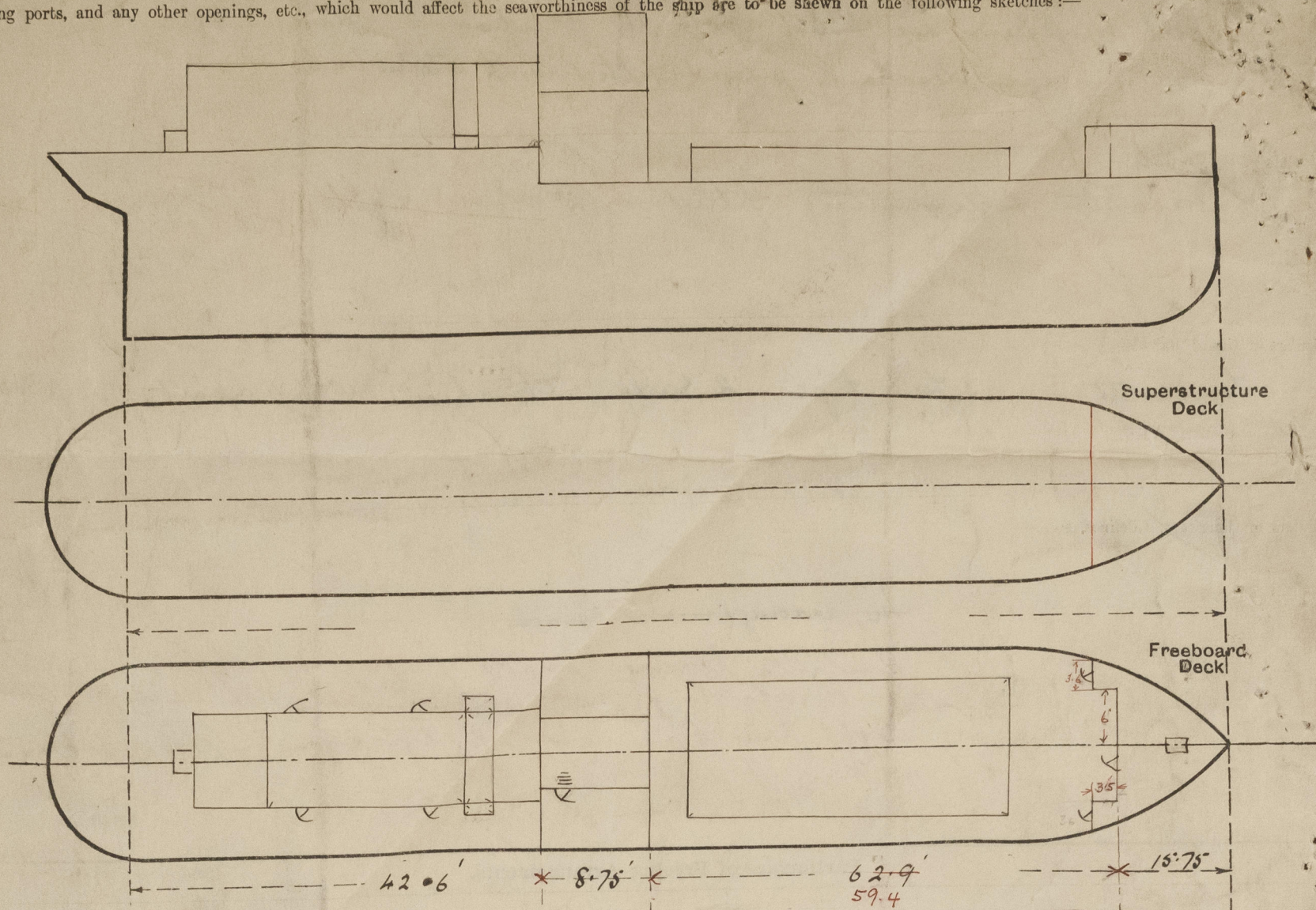


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Crosshill

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:—



Survey held afloat.

Equival. 1340.
19.25 - 4 x 3.5
9.6
- 2.19
= 17.06

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

Small Hatches.

Under Forecastle.

Flush opening to fore peak space.
24" x 10".

Bunker Hatch on Fiddley Casings.

3'-6" x 4'-6" coaming 3" angle. Cleats 3'-0" apart. Hatch covers 2" thick.
bearing surface 2 1/2" fitted 7. & 9. Tarpanlin efficient ^{also} fastenings
viz - cleats & coaming ~~cleats~~

Side Bunker Hatches on R.Q.D.

27" x 3'-6". Coaming, 13". 2 1/2" wood hatch covers. Tarpanlin & fastenings good.

Aft Peak.

Constructed of steel 12" high, plate over manhole 16" x 14" & secured with studs & nuts.

Builder's name and yard number

Crabtree & Co. Ltd. Great Yarmouth

Names of sister ships

Owners

R. & W. Paul Ltd.

Fee £

5 : 2 : 0

Received by me

(9 - 9 JAN 1933)



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