

Rpt. C.11.

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Newcastle-on-Tyne No 88 265

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Index. No. 33855.  
(For London Office only.)Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Forecastle - Bridge & Raised Quarter DeckPort of Survey Newcastle

(Type of Superstructures.)

Date of Survey 17<sup>th</sup> March 1932

Ship's Name

Nationality and Port of

Registry

Official Number

Gross Tonnage

Date of Build

TOLWORTHBritish  
London16250113361930-10Name of Surveyor P. D. BroudaceMoulded Dimensions: Length 225.00 Breadth 36.33 Depth 18.50Moulded displacement at moulded draught = 85 per cent. of moulded depth 2859 tonsCoefficient of fineness for use with Tables 779Particulars of Classification 100 A.1.with freeboard.

## Depth for Freeboard (D)

Moulded depth ... .. 18.50Stringer plate ... .. .04

Sheathing on exposed deck

 $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 18.54

## Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

 $(18.54 - 15.00) \times 1.731 = +6.13$ 

(b) Where D is less than Table depth (if allowed)

(Table depth - D) R =

If restricted by superstructures

## Round of Beam correction

Moulded Breadth (B) 36.33Standard Round of Beam =  $\frac{B \times 12}{50} =$  8.72Ship's Round of Beam = 8.50Difference .22

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.22}{4} \left( 1 - \frac{.735}{265} \right) = +.01$ 

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	<u>128.02</u>	<u>128.02</u>	<u>4.00</u>	<u>✓</u>	<u>128.02</u>
" overhang ...	-	-	-	-	-
Bridge enclosed ...	<u>15.00</u>	<u>15.00</u>	<u>7.00</u>	<u>✓</u>	<u>15.00</u>
" overhang aft ...	-	-	-	-	-
" overhang forward ...	-	-	-	-	-
Forecastle enclosed ...	<u>22.33</u>	<u>22.33</u>	<u>6.00</u>	<u>✓</u>	<u>22.33</u>
" overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Total ...	<u>165.35</u>	<u>165.35</u>	-	-	<u>165.35</u>

Standard Height of Superstructure 6'-0"" " R.Q.D. 3.833Deduction for complete superstructure 28.5Percentage covered  $\frac{S}{L} =$  73.5" "  $\frac{S_1}{L} =$  73.5" "  $\frac{E}{L} =$  73.5Percentage from Table, Line A. 67.30

(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 =  $28.5 \times .6730 = -19.18$ 

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>32.50</u>	<u>1</u>	<u>32.50</u>	<u>8.50</u>	<u>3.56</u>	<u>3.56</u>	<u>1</u>	<u>3.56</u>	<u>3.56</u>
$\frac{1}{2}$ L from A.P. ...	<u>14.46</u>	<u>4</u>	<u>57.84</u>	-	<u>1.58</u>	<u>1.58</u>	<u>4</u>	<u>6.32</u>	<u>6.32</u>
$\frac{2}{3}$ L " ...	<u>3.57</u>	<u>2</u>	<u>7.14</u>	-	<u>.40</u>	<u>.40</u>	<u>2</u>	<u>.80</u>	<u>.80</u>
Amidships ...	-	<u>4</u>	-	-	-	-	<u>4</u>	-	-
$\frac{2}{3}$ L from F.P. ...	<u>7.14</u>	<u>2</u>	<u>14.28</u>	<u>3.00</u>	<u>3.19</u>	<u>3.19</u>	<u>2</u>	<u>6.38</u>	<u>6.38</u>
$\frac{1}{2}$ L " ...	<u>28.92</u>	<u>4</u>	<u>115.68</u>	<u>13.00</u>	<u>12.74</u>	<u>12.74</u>	<u>4</u>	<u>50.96</u>	<u>50.96</u>
F.P. ...	<u>65.00</u>	<u>1</u>	<u>65.00</u>	<u>39.00</u>	<u>39.00</u>	<u>39.00</u>	<u>1</u>	<u>39.00</u>	<u>39.00</u>
Total ...	-	-	<u>292.44</u>	-	-	-	-	<u>107.02</u>	-

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$ If limited on account of midship superstructure. ✓ $\frac{185.42}{18} \left( .75 - \frac{3675}{265} \right) = +3.95$ If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft. ✓

Mean actual sheer aft = DEFICIENT.

Mean standard sheer aft

Mean actual sheer forward = DEFICIENT.

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = .136" " aft of " = .50

SHEER AFT INCREASED BY VIRTUE OF A RAISED QUARTER DECK HAVING A HEIGHT IN EXCESS OF STANDARD.

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 18.54Summer freeboard = 2.96Moulded draught (d) = 15.58

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 3.89 = 4"Addition for Winter North Atlantic Freeboard (if required) = 2"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$  2857

Tons per inch immersion at summer load water line

 $T =$  16.7Deduction =  $\frac{\Delta}{40T}$  inches $= \frac{2857}{40 \times 16.7} = 4.27 = 4\frac{1}{4}"$ 

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.779 + .68}{1.36} \frac{1.459}{1.36}$ Depth Correction ... .. 6.13Deduction for superstructures ... .. 19.18Sheer correction ... .. 3.95Round of Beam correction ... .. .01Correction for Thickness of Deck amidships ... .. 48.00

Other corrections, scantlings, etc. TO CORRESPOND WITH APPROVED WINTER MOULDED DRAUGHT OF 15'-3"

73.13 19.18 +53.95Summer Freeboard = 83.50SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:-Tropical Fresh Water Line above Centre of Disc ... .. 8\frac{1}{4}"Fresh Water Line " " ... .. 4\frac{1}{4}"Tropical Line " " ... .. 4"Winter Line below " " ... .. 4"Winter North Atlantic Line " " ... .. 6"Tropical Fresh Water Freeboard ... .. 6'-3\frac{1}{4}"Fresh Water " " ... .. 6'-7\frac{1}{4}"Tropical " " ... .. 6'-7\frac{1}{2}"Winter " " ... .. 7'-3\frac{1}{2}"Winter North Atlantic " " ... .. 7'-5\frac{1}{2}"



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
UPPER DECK ← RAISED Q. DECK →									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thicknes	...	...	...	...	...	...	...	...
	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	...	...	...	...	...	...	...	...
	Thicknes	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

\*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:—

Fiddle gratings are fitted with hinged steel covers ✓  
 Engine room skylight is steel ✓  
 Tunnel & fiddle vents good. ✓

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Entrance to aft accommodation enclosed in steel deckhouse with 1 3/4" solid teak door operated from both sides. Sill 15" ✓  
 Entrance to midship accommodation on bridge deck enclosed in wood deckhouse with 1 1/2" teak door operated from both sides. Sill 7" ✓  
 The stair is further protected by a wooden companion hatch with door operating from both sides. Sill 5" ✓

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

Fore well:— 2 @ 16" dia. led to holds Coaming 36" x 38" ✓  
 Bridge deck:— 8 mush-room vents 6" dia x 9" in height led to accommodation ✓  
 1 @ 6" dia. led to accommodation Coaming 29" x 28" ✓  
 Raised Q. Deck:— 2 @ 20" " " stokehold. " 36" x 40" ✓  
 2 @ 16" " " holds " 36" x 38" ✓  
 7 mush-room vents 6" dia x 9" in height led to accommodation. Closing - wood plugs canvas covers! ✓

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

Fore deck:— 1 @ 3" dia & 1 @ 2" dia. led to peak. See sketch ✓  
 Fore well:— 2 @ 3 1/2" " led to D.B. Tank. Height to mouth 35" C.I. ✓  
 Raised Q. Deck:— 2 @ 4" " " " " 33" C.I. ✓  
 2 @ 2" " " " " 22" M.I. ✓  
 1 @ 3" " " aft peak. " " 36" M.I. ✓  
 Closing - canvas covers. ✓  
 with anything holes in upper board

Particulars of Gangway Cargo and Coaling Ports:—

None. ✓



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Tolworth

Particulars of Scuppers and Sanitary Discharge Pipes —

W.C. discharges lead to M.I. storm valves fitted ✓

Particulars of Side Scuttles:

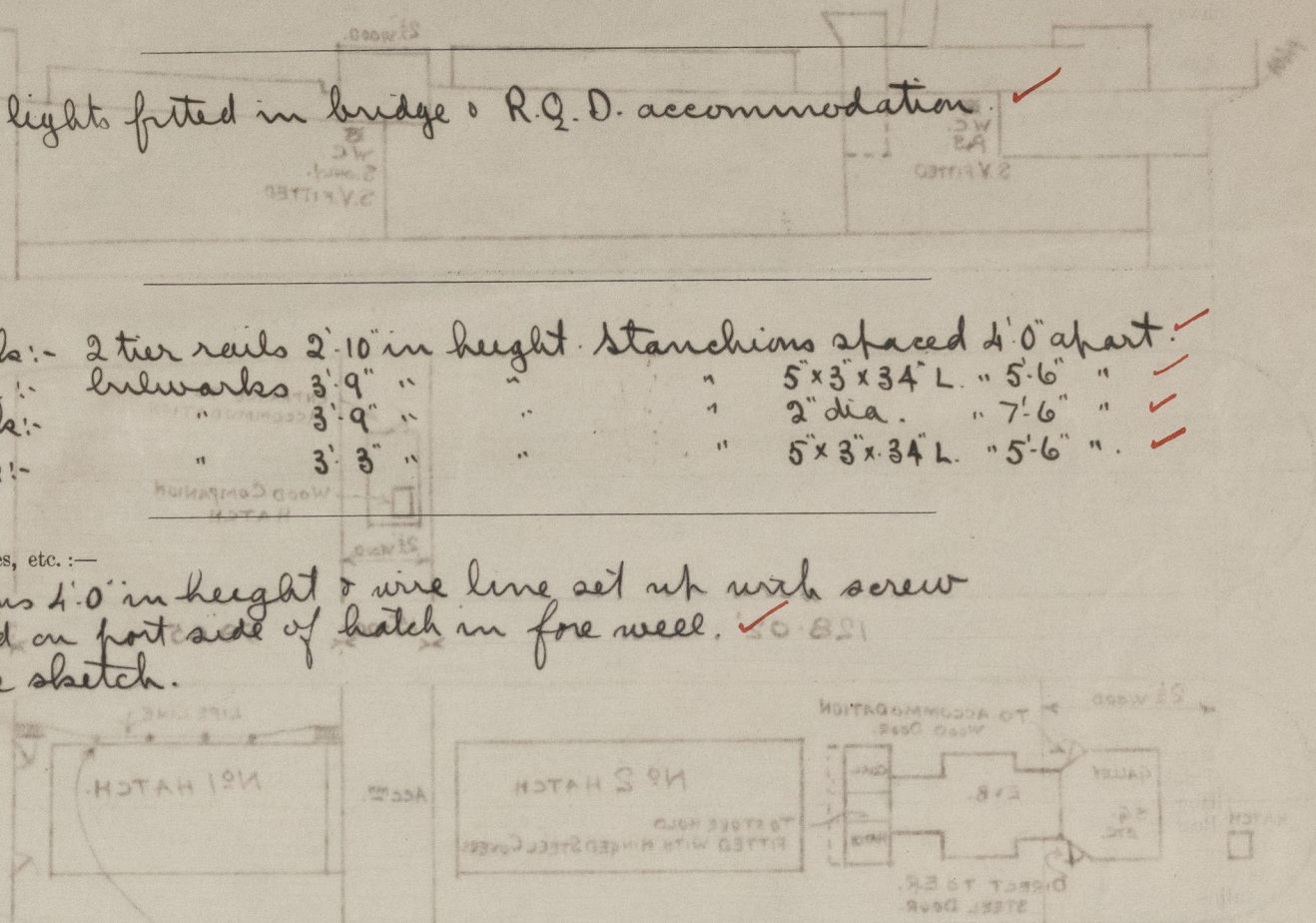
Hinged dead lights fitted in bridge & R.Q.D. accommodation ✓

Particulars of Guard Rails:—

Fore deck:— 2 tier rails 2' 10" in height. Stanchions spaced 4' 0" apart. ✓  
Fore well:— bulwarks 3' 9" " " 5' 3" x 34" L. " 5' 6" " ✓  
Bridge deck:— " 3' 9" " " 2" dia. " 7' 6" " ✓  
Raised Q.D. deck:— " 3' 3" " " 5' 3" x 34" L. " 5' 6" " ✓

Particulars of Gangways, Lifelines, etc.:—

Stanchions 4' 0" in height & wire line set up with screw fitted on port side of hatch in fore well. ✓  
See sketch.



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.D. ...	128.02' ✓	3' 3"	11' 25" x 75' 11' 50" x 75' 17' 25"	1	30 sq. ft. ✓	23.6 sq. ft. ✓
Forward Well ...	59.65' ✓	3' 9"	11' 00" x 75' 12' 00" x 75'	1	17.25 sq. ft. ✓	12.5 sq. ft. ✓
State position of each freeing port (F. and A. position and height above deck edge) { After Well:— 10' 9" - 33' 7" & 58' 8" from bridge end. 4' above decks. ✓ Forward Well:— 6' 0" & 30' 0" " fore " 7' " " ✓						
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 ...	—	—	—	—	—	—	—	—
Raised Quarter Deck Bulkhead ...	—	34" ✓	6" x 3" x 38" B.A. ✓	30" ✓	Lugs. ✓	None ✓	—	—
Bridge, After Bulkhead ...	—	—	—	—	—	—	—	—
Bridge, Forward Bulkhead ...	38" ✓	34" ✓	6" x 3" x 38" B.A. ✓	30" ✓	Lugs. ✓	None ✓	—	—
Forecastle Bulkhead ...	—	28" ✓	3" flange or 3" x 3" x 32" ✓	48" ✓	None. ✓	3' 1" x 36" ✓	15" ✓	—
Trunk, Aft ...	—	—	—	—	—	—	—	—
Trunk, Forward ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	—	32" ✓	4" x 3" x 32" ✓	32" ✓	None. ✓	Two 4' 6" x 23" ✓	15" ✓	3' 6" 9' 6" ✓
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 ...	✓	08 aft & 10 fore & 10 starboard & 10 port ✓
Raised Quarter Deck Bulkhead ...	✓	
Bridge, After Bulkhead ...	✓	
Bridge, Forward Bulkhead ...	✓	
Forecastle Bulkhead ...	✓	Hinged steel doors operating both sides. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓	Hinged steel door to E.R. & wood door to crew. both operating 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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