

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

 21 JAN 1937 35156  
 Index. No.  
 (For London Office only.)

No. 32011

 Computation of Freeboard for Steamer, Sailing Ship, Tanker  
 having Raised Quarter deck, Bridge and Forecastle
Port of Survey Sunderland

(Type of Superstructures.)

Date of Survey While building

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"ARTHUR WRIGHT"	British Shoreham	164887	1091	1937

Name of Surveyor Solun Bartlett
 Moulded Dimensions: Length 208.5 Breadth 33.0 Depth 15.83.  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 2,012 tons  
 Coefficient of fineness for use with Tables 761
Particulars of Classification + 100A1  
Class contemplated.

Depth for Freeboard (D)	
Moulded depth	15.83
Stringer plate	3.4" 03
Sheathing on exposed deck	None
$T \left( \frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	15.86

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R =	$(15.86 - 13.90) \times 1.604 = +3.14$
(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)	33.0
Standard Round of Beam = $\frac{B \times 12}{50}$	7.92
Ship's Round of Beam	8.2
Difference	.58
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.58}{4} \times \frac{2814}{L} = -.04$

## 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	119.87	119.87	3.9"		119.87
" overhang					
Bridge enclosed	11.33	11.33	7.0"		11.33
" overhang aft					
" overhang forward					
F'cle enclosed	18.63	18.63	7.0"		18.63
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	149.83	149.83			149.83

 Standard Height of Superstructure 6.0  
 " " R.Q.D. 3.723  
 Deduction for complete superstructure 26.85  
 Percentage covered  $\frac{S}{L} = 71.86$   
 " "  $\frac{S_1}{L} = 71.86$   
 " "  $\frac{E}{L} = 71.86$   
 Percentage from Table, Line A. 65.29  
 (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 =  $26.85 \times 65.29 = -17.53$ 

## SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	30.85	1	30.85	30.00	30.00	1	30.00
$\frac{1}{2}$ L from A.P.	13.73	4	54.92	13.75	13.75	4	55.00
$\frac{2}{3}$ L	3.39	2	6.78	3.37	3.37	2	6.74
Amidships		4				4	
$\frac{2}{3}$ L from F.P.	6.79	2	13.58	7.25	7.25	2	14.50
$\frac{1}{2}$ L	27.45	4	109.80	26.75	26.75	4	107.00
F.P.	61.70	1	61.70	60.00	60.00	1	60.00
Total			277.63				273.24

 Actual height of raised quarter deck = 3.750  
 Standard height = 3.723  
 Diff = .027  
 Note: Parabolic  
 Sheer aft having end ordinate 30.32 is less favourable than the actual sheer.  
 Mean actual sheer aft = Deficient  
 Mean standard sheer aft = Deficient  
 Mean actual sheer forward = Deficient  
 Mean standard sheer forward = Deficient  
 Length of enclosed superstructure forward of amidships = } Sheer Deficient  
 " " aft of " = } Deficient

 Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{4.39}{18} (75 - .3593) = +.10$ 

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.

 R.Q.D. Ft.  
 Depth to Freeboard Deck = 19.61  
 Summer freeboard = 4.73  
 Moulded draught (d) = 14.88

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =  $3.72 = 3\frac{3}{4}$ Addition for Winter North Atlantic Freeboard (if required) =  $5\frac{3}{4}$ 

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 2253$ 

Tons per inch immersion at summer load water line

 $T = 14.20$ 
 Deduction =  $\frac{\Delta}{40T}$  inches  
 =  $3.97 = 4$ 

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

Correction for coefficient  $\frac{761 + .68}{1.36} = \frac{1.441}{1.36} =$ 

	+	-
Depth Correction	3.14	
Deduction for superstructures		17.53
Sheer correction	10	
Round of Beam correction		.04
Correction for Thickness of Deck amidships	45.00	
Other corrections, scantlings, etc.		
	48.24	17.57

Summer Freeboard = 56.67

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Raised Quarter, Steel Deck:-

Tropical Fresh Water Line above Centre of Disc	7 $\frac{3}{4}$ "	Tropical Fresh Water Freeboard	4'-8 $\frac{3}{4}$ "
Fresh Water Line	4"	Fresh Water	4'-1"
Tropical Line	3 $\frac{3}{4}$ "	Tropical	4'-4 $\frac{3}{4}$ "
Winter Line below	3 $\frac{1}{4}$ "	Winter	4'-5"
Winter North Atlantic Line	5 $\frac{3}{4}$ "	Winter North Atlantic	5'-0 $\frac{1}{2}$ "
			5'-2 $\frac{1}{2}$ "

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		Upper D <sup>6</sup>	R. O. D <sup>6</sup>	Small Batches					
Dimensions of Hatchway		48'0" x 21'6"	50'0" x 21'6"	Escape Hatch Upper D <sup>6</sup> against fire bulkhead					
COAMINGS		Height above Deck	48"	42"	24" x 24" Coaming 30" x 34" Steel cover 34				
		Thickness	49	49	Joined a 6-3/4" clips				
		Sides	404-45	404-45	Escape Hatch R. O. D <sup>6</sup> against fiddle casing				
		Ends	404-45	404-45	fore end starboard side 24" x 18"				
		Stiffeners	9 x 3 1/2 x 40 50	9 x 3 1/2 x 40 50	Coaming 30" x 34" Steel cover 34 joined a				
HATCH BEAMS		Brackets, Stays	404-45	404-45	6-3/4" clips				
		Number	7	7	Bunker Hatch on Caser Top 20'0" x 5'4"				
		Spacing	6'0"	6'3"	9 x 3 x 40 B. A. Coaming 2 1/2" Cover 3' Rest				
		Scantling and Sketch	4 1/2 x 3 x 45	4 1/2 x 3 x 45	Cleat 24" One tarpaulin				
		Bearing Surface	do	do					
FORE AND AFTERS		Number							
		Spacing							
		Unsupported Lengths							
		Scantling and Sketch							
		Bearing Surface							
HATCH COVERS		Material	W. P.	W. P.					
		Thickness	3"	3"					
		How fitted	4 a. a.	4 a. a.					
		Bearing Surface	3"	3"					
		Spacing of Cleats	24"	24"					
Number of Tarpaulins			2	2					

Particulars of fiddle, funnel and ventilator coamings:—

Engine room skylight, fiddle funnel, and ventilator  
Coamings of steel, strongly constructed.  
Fiddle openings fitted with ringed steel covers

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

None

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

On R. O. D<sup>6</sup> Two 6" Mushroom Vents to Accommodation aft  
One 12" Flood Vent. Port side aft Coaming 30" x 34"  
One 12" " " Starboard side aft " 30" x 34"  
On Bridge Two 6" Mushroom Vents to Accommodation  
On Upper D<sup>6</sup> One 12" Flood Vent. Port side aft Coaming 36" x 34"  
One 12" " " Port side aft " 36" x 34"

All Vents fitted with  
wood plugs and  
canvas covers

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

On Fore 3" Air pipe to fore peak 20' to lip  
On Upper D<sup>6</sup> Two 3" A. P. fore end no. 1 tank 36" to lip  
On Bridge Two 3" " aft " no. 2 " 30" " "  
On R. O. D<sup>6</sup> Two 2" " to R. P. d. B. tank 30" " "  
One 2 1/2" " to after Peak 30" " "  
One 1 1/2" " after space 30" " "

All air pipes fitted  
with wood plugs and  
canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

None



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Particulars of Scuppers and Sanitary Discharge Pipes:—

From Bridge. 1½" sink discharge fitted with wood plug and brass non-return valve.

Particulars of Side Scuttles:—

On Bridge Front. 5-12" side scuttles of strong construction with hinged deadlights  
" " " " " " " " " " " "  
" " " " " " " " " " " "  
In way of Accom. aft 3-10" each side  
Lowest sidelight 4' 6" from Load Waterline.

Particulars of Guard Rails:—

On Forecastle. 2 Rails, 3 ft high. Stanchions 5 ft apart.  
On Bridge 36" bulwarks 25 plate with 6" B.A. rail  
On Upper Deck Steel bulwarks 48"x.25. 6" B.A. Rail. 3" L. ship 6 ft apart  
On Raised Quarter Deck " " 42"x.25 " " " " " "

Particulars of Gangways, Lifelines, etc.:—

1½" S.W. lifeline with stanchions on starboard side in  
forward well along hatch top with platform from  
ladder to hatch.

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 ... ..	119.87	42"	18'0" x 0'75" 16'0" x 0'75" 4'0" x 0'75"	1 1 1	13.5 12.0 3.0 } 28.5	23.97
Forward Well ... ..	60.00	48"	15'0" x 0'75" 6'0" x 0'75"	1 1	11.25 4.50 } 15.75	12.50
State position of each freeing port ... .. } After Well:— 12.75 13.0 13.0 16.0 29.40 62.1 (F. and A. position and height above deck edge) } Forward Well:— 12.0 15.0 12.0 7.0 36.0 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.						

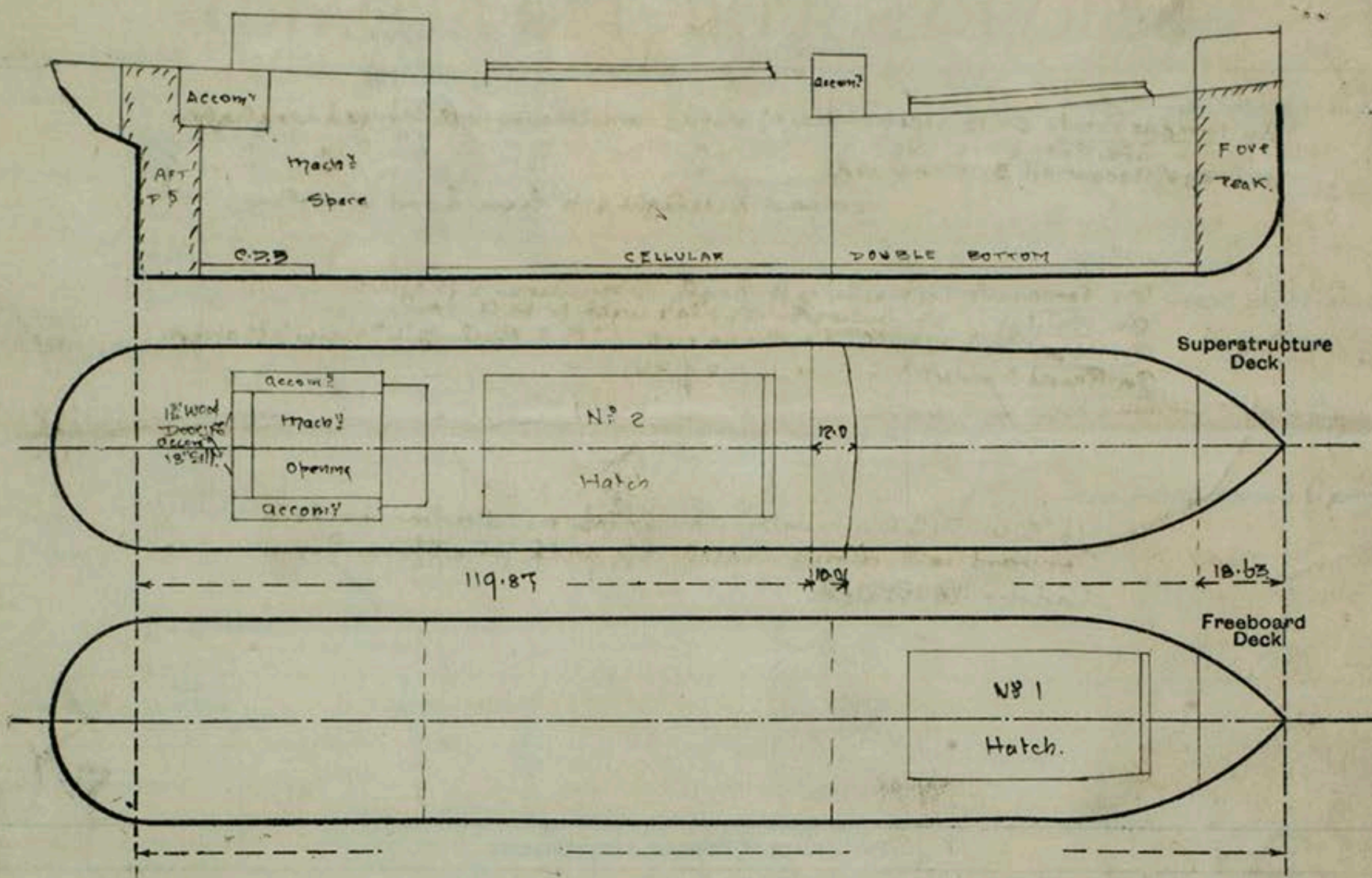
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..								
Raised Quarter Deck Bulkhead ... ..	24	24	3 x 3 x 30 Two 12" webs	32"	None	None		
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..	40" x 35	31	6 x 3 x 30 7 x 3 x 32 13 4	32"	None	None		
Forecastle Bulkhead ... ..	26	26	3 x 3 x 36	30"	None	Two 48" x 36" One 48" x 22"	18"	
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Fore- board or Raised Quarter Deck ... ..	30½ x 34	30	3 x 3 x 30	29"	None	Two 54" x 24"	18"	7' 6"
Exposed Machinery Casings on Super- structure Decks ... ..	✓							
Machinery Casings within Superstruc- tures 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 ... ..	✓ No openings
Bridge, Forward Bulkhead ... ..	✓
Forecastle Bulkhead ... ..	Two 3in. shifting boards in full fit, riveted channels One 32 steel door. Manipulated from both sides
Exposed Machinery Casings on Fore- board or Raised Quarter Deck ... ..	Two 30 steel doors. Manipulated from both sides.
Exposed Machinery Casings on Super- structure Decks ... ..	✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	✓
Deckhouses on Flush Deck Ships ...	✓



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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:—



The sheer of the Raised Quarter Deck is parallel to that of the Upper D<sup>e</sup>

Actual displacement at actual draught 14'6" = 2,169 Tons  
Tons per inch " = 14.10.

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

WMT

Bridge  $10 + (2/3 \times 2) = 11.33.$

Builder's name and yard number W. Pickers-gill & Sons Ltd No 236.

Names of sister ships S.S. 'Henry Moon' Sed Rpt No 31981.

Owners The Mayor, Aldermen and Burgesses of the County Borough of Brighton.

Fee £ 10.

Received by me.

Will be charged on completion