

SURVEYS FOR FREEBOARD.

28 JUL 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having FORECASTLE BRIDGE + RAISED QUARTER DECK.

(Type of Superstructures.)

Ship's Name CAMBERWELL	Nationality and Port of Registry BRITISH LONDON	Official Number 147619	Gross Tonnage 1577	Date of Build 1924-4
----------------------------------	---	----------------------------------	------------------------------	--------------------------------

Port of Survey Newcastle.

Date of Survey 26th July. /32

Name of Surveyor John A. Lawson

Particulars of Classification + 100 A1.
SS Sh. No. 1-28

Moulded Dimensions: Length 243.75 ✓ Breadth 36.50 ✓ Depth 20.50 ✓

Moulded displacement at moulded draught = 85 per cent. of moulded depth = 17.5" = 3370 tons

Coefficient of fineness for use with Tables .761 ✓

<p>Depth for Freeboard (D)</p> <p>Moulded depth <u>20.50</u></p> <p>Stringer plate <u>.04</u></p> <p>Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓</p> <p>Depth for Freeboard (D) = <u>20.54</u> ✓</p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D-Table depth) R = ✓ <u>(20.54 - 16.25) 1.875 = +8.04</u></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓</p> <p>If restricted by superstructures ✓</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <u>36.50</u> ✓</p> <p>Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>8.76</u> ✓</p> <p>Ship's Round of Beam = <u>9</u> ✓</p> <p>Difference <u>.24</u> ✓</p> <p>Restricted to ✓</p> <p>Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.24}{4} \times .3218 =$ <u>-.02</u></p>
--	--	---

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>95.81</u> ✓	<u>95.81</u> ✓	<u>2.33</u> ✓	<u>3.957</u> ✓	<u>56.41</u> ✓
" overhang	<u>52.16</u> ✓	<u>46.94</u> ✓	<u>7.00</u> ✓		<u>46.94</u> ✓
Bridge enclosed	<u>51.20</u> ✓				
" overhang aft	✓				
" overhang forward	<u>.78</u> ✓	<u>.37</u> ✓			<u>.37</u> ✓
F'cle enclosed	<u>22.19</u> ✓	<u>22.19</u> ✓	<u>7.00</u> ✓		<u>22.19</u> ✓
" overhang	✓				
Trunk aft	✓				
" forward	✓				
Tonnage opening aft	✓				
" " forward	✓				
Total	<u>170.91</u> ✓	<u>165.31</u> ✓			<u>125.91</u> ✓

Standard Height of Superstructure	<u>6.0</u> ✓
" " R.Q.D.	<u>3.9575</u> ✓
Deduction for complete superstructure	<u>30.375</u> ✓
Percentage covered $\frac{S}{L} =$ <u>70.12</u> % ✓	
" " $\frac{S_1}{L} =$ <u>67.82</u> % ✓	
" " $\frac{E}{L} =$ <u>51.66</u> % ✓	
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<u>34.32</u> % ✓
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	✓
Interpolation for bridge less than .2L (if required)	✓
Deduction = <u>30.37</u> × <u>.3432</u> = <u>- 10.42</u> ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>34.375</u> ✓	1		<u>34.37</u> ✓	<u>37</u> ✓	<u>37.00</u> ✓	1		<u>34.37</u> ✓
$\frac{1}{4}$ L from A.P.	<u>15.30</u> ✓	4		<u>61.20</u> ✓	<u>16</u> ✓	<u>16.00</u> ✓	4		<u>61.20</u> ✓
$\frac{2}{4}$ L "	<u>3.78</u> ✓	2		<u>7.56</u> ✓	<u>4</u> ✓	<u>4.00</u> ✓	2		<u>7.56</u> ✓
Amidships	✓	4		✓	✓	✓	4		✓
$\frac{2}{4}$ L from F.P.	<u>7.56</u> ✓	2		<u>15.12</u> ✓	<u>7</u> ✓	<u>7.11</u> ✓	2		<u>14.22</u> ✓
$\frac{1}{4}$ L "	<u>30.59</u> ✓	4		<u>122.36</u> ✓	<u>29</u> ✓	<u>28.44</u> ✓	4		<u>113.76</u> ✓
F.P.	<u>68.75</u> ✓	1		<u>68.75</u> ✓	<u>66</u> ✓	<u>66.00</u> ✓	1		<u>66.00</u> ✓
Total				<u>309.36</u> ✓					<u>297.11</u> ✓

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{12.25}{18} \times (.75 - .3506) = +.27$ ✓

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.

Ft. ✓

Depth to Freeboard Deck = 20.54

Summer freeboard = 2.56

Moulded draught (d) = 17.98

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4.49 ✓

Addition for Winter North Atlantic Freeboard (if required) = 2 ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ 3594 @ 18.4

Tons per inch immersion at summer load water line

$T =$ 18.03 ✓

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

$= \frac{3594}{40 \times 18.03} =$ 4.98 ✓ = 5 ✓

17.0 = 3306 = 17.9 Tons

18.0 = 3522 = 18.0

19.0 = 3739 = 19.1

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.761 + .68}{1.36} =$.441 ✓

$\frac{.441}{1.36} =$.324 ✓

Depth Correction ✓

Deduction for superstructures ✓

Sheer correction ✓

Round of Beam correction ✓

Correction for Thickness of Deck amidships ✓

Other corrections, scantlings, etc. ✓

8.31 10.44 ✓

Summer Freeboard = 30.77 ✓

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 2' - 6 $\frac{3}{4}$ " ✓

Tropical Fresh Water Line above Centre of Disc	✓
Fresh Water Line " "	✓
Tropical Line " "	✓
Winter Line below " "	<u>4$\frac{1}{2}$</u> ✓
Winter North Atlantic Line " "	✓

Tropical Fresh Water Freeboard	✓
Fresh Water " "	✓
Tropical " "	✓
Winter " "	<u>2' - 11$\frac{1}{4}$</u> ✓
Winter North Atlantic " "	✓

RECEIVED

Lloyd's Register
Freeboards
Assigned

002816-002824-0056

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	N ^o 1	N ^o 2	N ^o 3	N ^o 4	In Bridge Space		Forward		Coaming Top	
					1 off	2 off	Ch. Locks	Escape Hatch	Coal Shoot	
Dimensions of Hatchway	29'3" x 24'6" 18'0"	30'6" x 25'0"	31'6" x 25'0"	29'3" x 25'0" 20'0"	4'6" x 14'3"	4'3" x 2'0"	3'6" x 7'10"	4'0" x 19' DIA.	6'0" x 14'3"	
COAMINGS	Height above Deck	39	39	39	8'8"	8'8"	18	18	12"	
	Thickness	.44	.44	.44			.30	.30	.30	
	Stiffeners	.44	.44	.44						
	Brackets, Stays	7 x 3 x 40	8 BULB ANGLE	8 BULB ANGLE						
HATCH BEAMS	Number	4	5	5	4					
	Spacing	5'11"	5'1"	5'3"	5'10"					
	Scantling and Sketch	19 x 38	23 1/2 x 40	23 1/2 x 40	21 x 38					
	Bearing Surface	23 x 38	5 1/2 x 3 1/2 x 40 ANGLES	5 1/2 x 3 1/2 x 40 ANGLES	23 1/2 x 38					
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths									
	Scantling* and Sketch									
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	NONE	W.P.	8 1/2	W.P.	
	Thickness	3	3	3	3		2 1/2	.30	2 1/2	
	How fitted	F.A.	F.A.	F.A.	F.A.		F.A.			
	Bearing Surface	3 x 4 1/2 x 5	3 x 5 1/2	3 x 5 1/2	3 x 5		2 1/2		2 1/2	
Spacing of Cleats	22	22	22	22		21	21	15	18	
Number of Tarpaulins	2	2	2	2	4	1		4 TOGGLES	2	

*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 fiddley, funnel and ventilator coamings:— *Fiddley gratings covered by strong steel hinged covers.*
Funnel fiddley vents in efficient condition.
Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:— *none.*

Particulars of Companionways:— *Entrances to crews quarters in steel house on Bridge Deck. Port starboard Door of 1 1/4 solid oak. Door 4'10" x 2'0". Sill 18" above Bridge Deck.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
Forward well: 2 vents 15' dia. coaming 3'6" x 34 to hold.
2 " 12 " " 3'6" x 34 to hold.
aft well: 1 " 15 " " 3'6" x 34 to hold.
2 " 11 1/2 " " 3'1" x 34 to hold.
1 " 12 " " 3'5" x 34 to hold.
Bridge 2 vents 8' dia. Coaming 23' x 30 to Bunker.
6 mesh vents 5' dia. " 8" x 26 to cabins.
all vents are in accordance with rules and have wood plugs and canvas covers.
2 G.M. vents to tunnel 3' dia. 36" to top. 38" to bend.
with satisfactory means of closing.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
Forecastle 1 G.M. air pipe 3' dia. 9" to top. 11" to bend to Fore Peak.
Forward well: 1 " 2 1/2 " 36" 43 1/2 " to D.B.
2 " 2 1/2 " 36" 38 " to D.B.
aft well: 2 " 2 1/2 " 30" 36" to D.B.
2 " 2 1/2 " 45" 48 " to D.B.
1 " 4 " 36" 38 " to Deep Tank.
1 " 3 " 9" 11" to A.P.
air pipes have satisfactory means of closing.

Particulars of Gangway Cargo and Coaling Ports:— *none.*

Camberwell

Particulars of Scuppers and Sanitary Discharge Pipes — *Sanitary discharges below freeboard deck have storm valves on ship's side above*
③ Scuppers from bridge space discharge through pipe having open end to S.R. bilge.
Storm valves of substantial construction.
SCUPPERS TO ACCOM. LED THRO' S.V. ON SHIP'S SIDE. (A)

Particulars of Side Scuttles: *Side scuttles to crew space are above freeboard deck and have hinged deadlights of substantial construction.*

Particulars of Guard Rails:— *Forecastle 2 tier. 3'-3" high spaced about 4'-3" apart.*
Bridge Bulwark 3'-6" high. open forward and aft. 20'-6" FROM FOR. TO SIDEHOUSES.
1st W.P. 10'-0" : 2nd W.P. 17'-3" : 4' above deck
3'-0" x 1'-6" 1'-6" x 1'-6"
2 BARS. NO BARS.
ASH SHOOT OPENING.

Particulars of Gangways, Lifelines, etc.:— *None. Crew are housed in bridge.*

Suitable provision made for rigging lifelines for use in any part of the ship which may 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 ...	95.81'	3'-9"	3'-3" x 1'-7" 2 freeing ports 12 1/2 x 9" oval each side	3	15.40 ϕ	19.16 ϕ
Forward Well ...	74.17 77.00'	3'-9"	3'-3" x 1'-7" 2 freeing ports 12 1/2 x 9" oval each side	3.	15.40 ϕ	14.8

State position of each freeing port ... After Well:— 1st 5'-9" : 2nd 32'-6" : 3rd 61'-2" aft of B. Bhd. 9' above Dk.
(F. and A. position and height above deck edge) Forward Well:— 1st 5'-8" : 2nd 32'-6" : 3rd 61'-6" forward of B. Bhd. 10' . . .
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 Rong. Bars.

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 ...	✓ 36	✓ 36	5 x 3 x 7/20 L	30	-	-	-	-
Bridge, After Bulkhead ...								
Bridge, Forward Bulkhead ...	✓ 36	✓ 32	6 x 3 = 40 BA	27"	Lugs T-B.	4'-3" x 1'-9" W.T. 18" 4'-2" x 3'-1" T.O. 23" 4'-3" x 3'-0" T.O. 18"	✓ 18	✓
Forecastle Bulkhead ...	✓ 26	✓ 26	3" FL	32	-	4'-6" x 3'-6" T.O. 18"	✓ 18	✓
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓ 30	✓ 30	3 x 2 1/2 x 28 L 3 1/2 x 3 1/2 x 36 L	30	-	4'-6" x 2'-0" 20"	✓ 20	-
Exposed Machinery Casings on Superstructure Decks ...	✓ 30	✓ 26	3 x 2 1/2 x 28 L	28" - 35"	-	4'-6" x 2'-0" 18" 2'-0" x 2'-0"	✓ 18	✓ 24 TO GEAR SHOOT.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓ 40	✓ 26	3 x 2 1/2 x 28 L	28" - 34	-	4'-6" x 2'-0" 18"	✓ 18	✓
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 ...	✓
Bridge, Forward Bulkhead ...	1 W.T. Doors 10 TOGGLES (ON GALTEED PLATE. BOLTS THRO PLATE - BULKHEAD SP. ABOUT 4" APART) Op. one side only. 3" weather Boards in riveted channels full height. (2 OPENINGS)
Forecastle Bulkhead ...	3" weather boards in channels full height. (2 ord. stl hgs doors to sidehouses op. both sides.)
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Ord. steel hinged doors op. both sides. to steering house - Engine Room.
Exposed Machinery Casings on Superstructure Decks ...	Ord. steel hgs doors to Fiddley - operated both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	Ord. steel hgs doors to Engine Room - operated both sides.
Deckhouses on Flush Deck Ships ...	✓

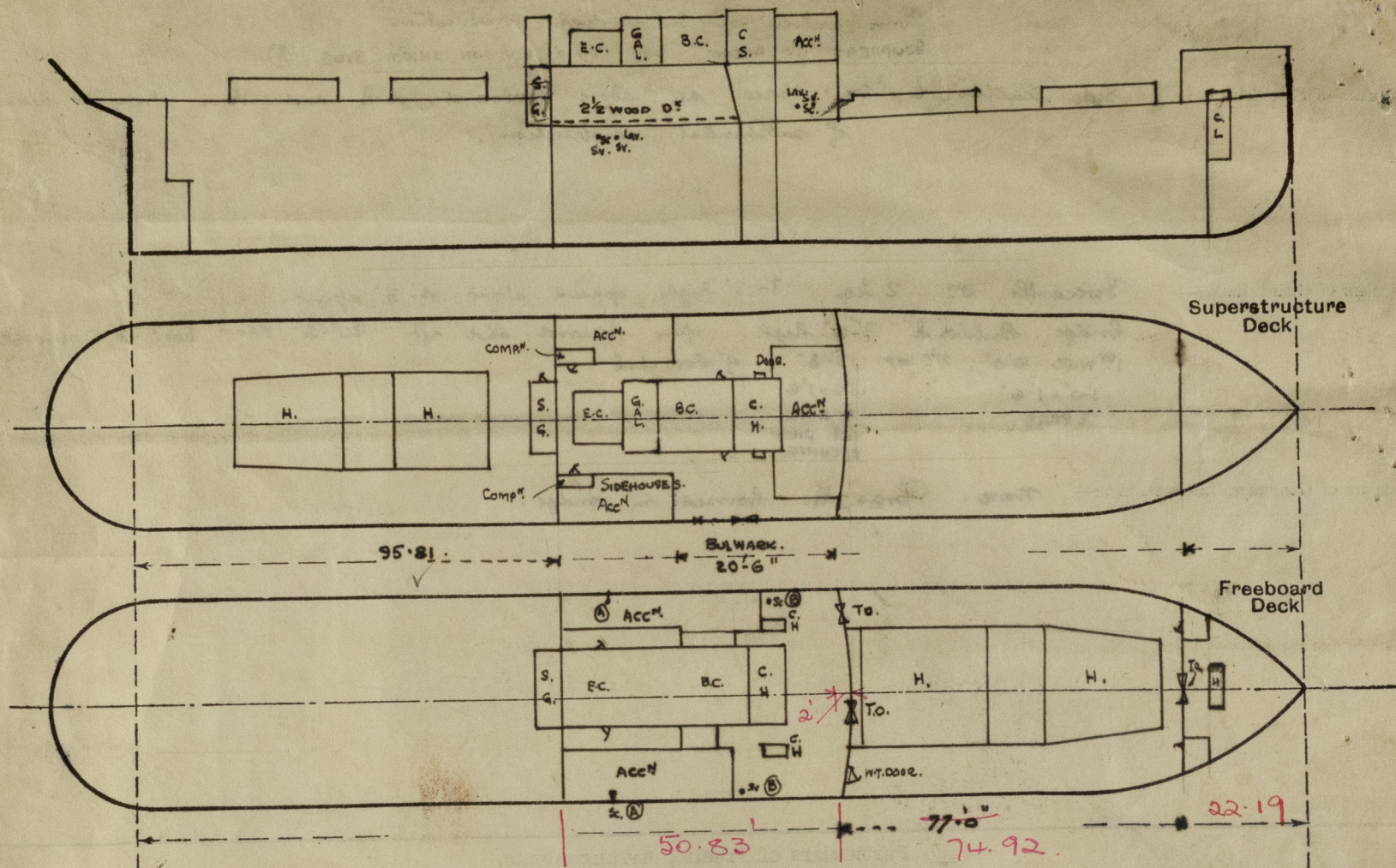


© 2021

Lloyd's Register Foundation

Camberwell

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:—



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

VESSEL EXAMINED ON PANTOON. ✓

SURVEY BEING PARTLY HELD AT THIS TIME AND NOT TO BE COMPLETED. ✓

OUT.

Builder's name and yard number: Sydney Iron Ship Building Co. Ltd. Newcastle. Yard No. 227.

Names of sister ships: _____

Owners: South Metropolitan Gas Co.

Fee £ 9 : 7 : 0 Received by me: [Signature]



© 2021

Lloyd's Register
Foundation