

Rpt. C.11.

Index No.
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No 31071

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Raised Quarter Deck, Bridge & Forecastle.

Port of Survey Sundland

Date of Survey while building

Name of Surveyor James Dickie

Particulars of Classification +100A1 (Contemplated)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>S.S. JOHN HOPKINSON</u>	<u>BRITISH LONDON</u>	<u>163300</u>	<u>1313.59</u>	<u>1932</u>

Moulded Dimensions: Length 226'8" Breadth 36'25" Depth 17'46"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2672 tons

Coefficient of fineness for use with Tables .767

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>17'46"</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(17.51 - 15.12) 1.744 = +4.17</u>	Moulded Breadth (B) <u>36.25</u>
Stringer plate <u>.05</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{36.25 \times 12}{50} = 8.70$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>9.00</u>
Depth for Freeboard (D) = <u>17'51"</u>		Difference <u>.30 in.</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.30}{4} \times \left(1 - \frac{.8}{22.72} \right) = -.02$

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>138.00</u>	<u>138.00</u>	<u>3.42</u>	<u>3.42/3.85</u>	<u>122.58</u>
" overhang	✓	✓	✓	✓	✓
Bridge enclosed	<u>15.75</u>	<u>15.75</u>	<u>7.0</u>	✓	<u>15.75</u>
" overhang aft	✓	✓	✓	✓	✓
" overhang forward	✓	✓	✓	✓	✓
F'cle enclosed	<u>21.33</u>	<u>21.33</u>	<u>6.0</u>	✓	<u>21.33</u>
" overhang	✓	✓	✓	✓	✓
Trunk aft	✓	✓	✓	✓	✓
" forward	✓	✓	✓	✓	✓
Tonnage opening aft	✓	✓	✓	✓	✓
" " forward	✓	✓	✓	✓	✓
Total	<u>175.08</u>	<u>175.08</u>			<u>159.66</u>

Standard Height of Superstructure	<u>6.00</u>
" " R.Q.D.	<u>3.85</u>
Deduction for complete superstructure	<u>28.68</u>
Percentage covered $\frac{S}{L} =$	<u>77.8%</u>
" " $\frac{S_1}{L} =$	<u>77.6%</u>
" " $\frac{E}{L} =$	<u>70.39%</u>
Percentage from Table, Line A.	<u>63.49%</u>
(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 = <u>28.68 × 63.49 = 18.21</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>32.68</u>	1		<u>32.68</u>	<u>18.00</u>	<u>18.00</u>	1		<u>18.00</u>
$\frac{1}{2}$ L from A.P.	<u>14.54</u>	4		<u>58.16</u>	<u>8.00</u>	<u>8.00</u>	4		<u>32.00</u>
$\frac{3}{8}$ L "	<u>3.59</u>	2		<u>7.18</u>	<u>2.10</u>	<u>2.10</u>	2		<u>4.20</u>
Amidships	<u>0</u>	4		<u>0</u>	<u>0</u>	<u>0</u>	4		<u>0</u>
$\frac{3}{8}$ L from F.P.	<u>7.18</u>	2		<u>14.36</u>	<u>4.74</u>	<u>4.74</u>	2		<u>9.48</u>
$\frac{1}{2}$ L "	<u>29.08</u>	4		<u>116.32</u>	<u>18.75</u>	<u>18.75</u>	4		<u>75.00</u>
F.P.	<u>65.36</u>	1		<u>65.36</u>	<u>42.00</u>	<u>42.00</u>	1		<u>42.00</u>
Total				<u>294.06</u>					<u>180.68</u>

Mean actual sheer aft = Deficient
Mean standard sheer aftMean actual sheer forward = Deficient
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = .18L" " aft of " = .5LCorrection = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{113.38}{18} \left(.75 - \frac{.3864}{2} \right) = +2.29$

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 R.Q. Freeboard Deck = 20'93"

Summer freeboard = 4'91"

Moulded draught (d) = 16'02"

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4"Addition for Winter North Atlantic Freeboard (if required) = 4 + 2 = 6"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 2920

Tons per inch immersion at summer load water line

T = 16.65Deduction = $\frac{\Delta}{40T}$ inches= 4.38

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient $\frac{.767 + .68}{1.36} = 1.0639$

	+	-
Depth Correction	<u>4.17</u>	✓
Deduction for superstructures	✓	<u>18.21</u>
Sheer correction	<u>2.29</u>	✓
Round of Beam correction	✓	<u>.02</u>
Correction for Thickness of Deck amidships	✓	✓
Other corrections (scantlings, etc.)	<u>41.00</u>	✓
	<u>47.46</u>	<u>18.23</u>
Summer Freeboard =	<u>58.91</u>	

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

Tropical Fresh Water Line above Centre of Disc	<u>8$\frac{1}{2}$</u>
Fresh Water Line " "	<u>4$\frac{1}{2}$</u>
Tropical Line " "	<u>4</u>
Winter Line below " "	<u>4</u>
Winter North Atlantic Line " "	<u>6</u>

Tropical Fresh Water Freeboard	<u>4'2$\frac{1}{2}$</u>
Fresh Water " "	<u>4'6$\frac{1}{2}$</u>
Tropical " "	<u>4'7</u>
Winter " "	<u>5'3</u>
Winter North Atlantic " "	<u>5'5</u>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

Particulars of fiddley, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel tinned covers. -
 Girdly & Funnell Ventilators in efficient condition. -
 Engine skylight of steel strongly constructed. -

Particulars of Flush Bunker Scuttles:—

NONE

Particulars of Companionways :—

NONE

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

Particulars of Ventilators in exposed positions of freeboard and superstructure decks:									
2	Ventilators on	upper-deck	13½" dia.	coamings	36x36	led	6	7	one hold.
2	"	"	R. P. - deck	16"	"	"	"	"	36x38 - " - " - after - " - "
5	"	"	"	bridge - " - 6"	"	"	"	"	36x30 " - accommodation - "
2	"	"	"	R. P. - " - 6"	"	"	"	"	36x30 " - bunkers - "
4	"	"	"	" - " - 6"	"	"	"	"	36x30 " - crew spaces - "

all ventilators constructed in accordance with Rules & coamings closed with wood plugs & canvas covers.

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

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

One H.I. air pipe 4" dia. on upper deck 36" high from fore peak.	Two H.I. air & sounding pipes 3½" dia. on R.Q. Deck, 30" high from No 2 Tank
Two " " " 3½" " " 36" " " " " " " " "	Two " air pipes 2¼" dia. on R.Q. Deck, 30" high, from engine room tank
Two " air & sounding pipes 1½" dia. on bridge deck 18" high - " "	One " " " 2½" " " " , 30" " " " from after peak tank
One " air pipe 5" flie. 6' above hatch covers (48" above upper deck), from deep tank amidships.	all pipes filled with wood plugs or bawl as cokers ~
Two H.I. air pipes 4"-dia. on bridge deck 18" high from No 2 Tank.	

Particulars of Gangway Cargo and Coaling Ports :—

NONE

Particulars of Scuppers and Sanitary Discharge Pipes:—
 Bath & Sanitary discharges
 led out above decks without
 storm valves. —
 Scuppers:— 3 1/2" I. pipe scuppers 2 1/2" dia. each side on upper deck, &
 beach side on lower deck, led out below decks. —
 One 4" brass S.V. from Captain's W.C. (Atlantic type with manual
 operated trap at inner end), led out on starboard side below upper deck. —
 Two 4" brass S.V. from crew & engineers side house led out on port side
 below raised quarter deck. —

Particulars of Side Scuttles:—
 Side scuttles to fore-castle & accommodation in bridge & crew space aft, —
 below raised quarter-deck, provided with hinged-decklights. —
 all scuttles of substantial construction. —

Particulars of Guard Rails:—
 Guard rails on fore-castle deck 3' 0" high with two rods & stanchions
 spaced 4' 3" apart. —
 Steel bulwarks in fore well 4' 0" high x 25, raised quarter deck 3' 0" x 25,
 & bridge deck 3' 3" x 30, efficiently constructed & supported as approved. —

Particulars of Gangways, Lifelines, etc.:—
 Permanent fittings have been fitted & lifelines supplied for use
 by the crew in any part of the vessel. —

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 (RAISED QUARTER DECK).	137' 50	3' 0"	28' 75 } 27' 00 } x .58 17' 50 }	one one one	42.48	27.50
Forward Well	51' 75	4' 0"	26.58 x .71	one	18.87	11.67

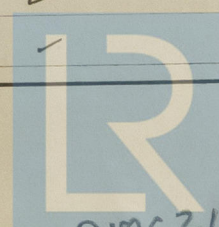
State position of each freeing port *See Sketch* { After Well:— 7" above
 (F. and A. position and height above deck edge) { Forward Well:— 9" above ✓
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— *None. Slots in bulwarks as approved.*
 Additional area where sheer is less than standard. — *as above.* ✓

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	✓	✓	4 x 3 x 30	36"	Joiners	✓	✓	✓
Raised Quarter Deck Bulkhead	Vertical Plating	.30	3 webs on fore side 2 x 40 x 30 to brackets & hatch girders on after side as approved.	✓	Brackets top & bottom on webs.	None	✓	✓
Bridge, After Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, Forward Bulkhead	Vertical Plating	.32	5 7/8 x 3 x 36 & 2 webs 2 1/2 x 40 x 30	23"-29"	Lugs top & bottom Brackets top & bottom on webs.	None	✓	✓
Fore-castle Bulkhead	Vertical Plating	.26	2 1/2 x 2 1/2 x 30 & 2 Steel bulkheads 26	30"	Joiners	2 @ 4' 0" x 3' 0" 2 @ 4' 0" x 2' 0"	18"	✓
Trunk, Aft	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Free board or Raised Quarter Decks	E.R. 4 1/2 x 33 B.R. 4 1/2 x 40	.33 & .40	E.R. 3 1/2 x 3 x 30 B.R. 3 x 3 x 40	27"-30"	Brackets as approved.	4' 6" x 2' 0"	18"	3' 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	✓	✓	✓	✓	✓	✓	✓	✓
Bridge, Forward Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Fore-castle Bulkhead	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Free board or Raised Quarter Decks	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Super structure Decks	✓	✓	✓	✓	✓	✓	✓	✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	✓	✓	✓	✓	✓	✓	✓	✓
Deckhouses on Flush Deck Ships	✓	✓	✓	✓	✓	✓	✓	✓



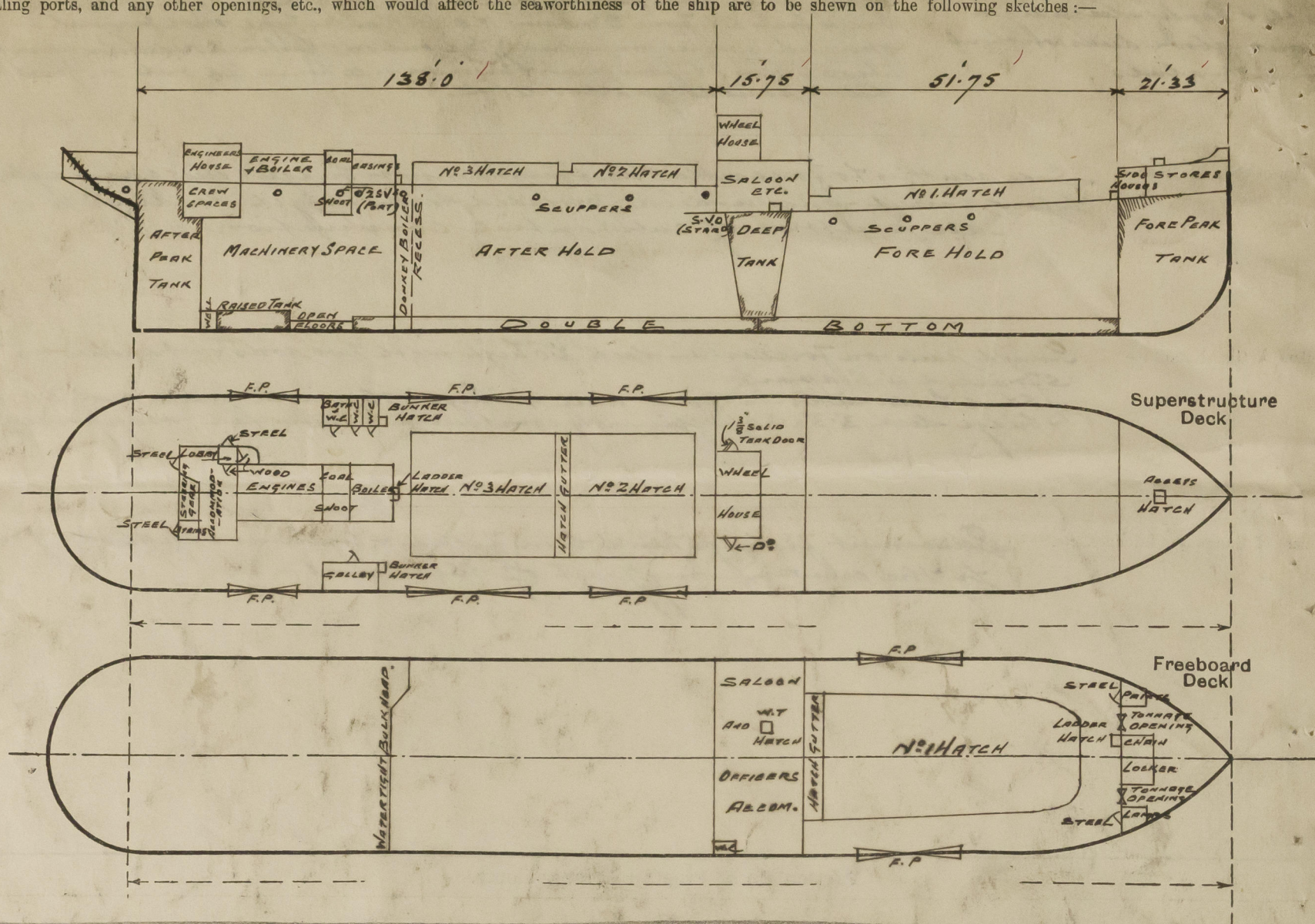
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Sid John Wapkinson

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:—



Copies of the approved plans are in the London Office!

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

External Displacement & Tons per inch.

Draft	Displ.	Tons per inch.
15'0"	2700	16.47
16'0"	2900	16.63
17'0"	3100	16.80

Builder's name and yard number *S.P. Austin & Son Ltd. No 326.*

Names of sister ships *S.S. "Tyndall" Sld Rpt No. 31039.*

Owners *London Power Co. Ltd. (Stephenson Clarke & Associated Companies Ltd), Managers.*

Fee £ *10:* Received by me
To be charged on completion



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