

Sh. Princess
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Rpt. C.11

Index. No. 25304
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

1 APR 1932
W 127

having Prop. Bridge & Forecastle Computation of Freeboard for Steamer, Sailing Ship, Tanker

(Type of Superstructures.)

Port of Survey Falmouth

Date of Survey 29th & 30th March 1932

Name of Surveyor Arch. Murray

Particulars of Classification 100 A.1.
Carrying petroleum in bulk.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>BRITISH ENSIGN</u>	<u>Antigua</u>	<u>140354</u>	<u>7048</u>	<u>1917</u>

Moulded Dimensions: Length 430.10 Breadth 56.75 Depth 33.56

Moulded displacement at moulded draught = 85 per cent. of moulded depth 15910 tons

Coefficient of fineness for use with Tables .801

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <u>33.56</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(33.56 - 28.68) 3 = +14.64</u>	Moulded Breadth (B) <u>56.75</u>
Stringer plate ... <u>.06</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \underline{13.62}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>14</u>
Depth for Freeboard (D) = <u>33.56</u>		Difference <u>.38</u>
		Restricted to
		Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \underline{\frac{38}{4} \times 5897 = -.06}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _e)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>100.5</u>	<u>100.50</u>	<u>8'</u>	-	<u>100.50</u>	Standard Height of Superstructure <u>7.5</u>
" overhang ...						" " R.Q.D. <u>-</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42</u>
" overhang ...						Percentage covered $\frac{S}{L} = \underline{41.19\%}$
Bridge enclosed...	<u>32.33</u>	<u>32.33</u>	<u>8'</u>	-	<u>32.33</u>	" " $\frac{S_1}{L} = \underline{41.03\%}$
" overhang aft ...						" " $\frac{E}{L} = \underline{41.03\%}$
" overhang forward	<u>40.88</u>	<u>40.88</u>	<u>8'</u>	-	<u>40.88</u>	Percentage from Table, Line A. <u>-</u>
F'cle enclosed <u>equivalent</u>	<u>3.45</u>	<u>2.79</u>		-	<u>2.79</u>	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B. <u>TANKER 32.03%</u>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required) <u>-</u>
Tonnage opening aft ...						Deduction = <u>42 x .3203 = -13.45</u>
" " forward						
Total ...	<u>177.16</u>	<u>176.50</u>			<u>176.50</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>53.01</u>	1		<u>53.01</u>	<u>55</u>	<u>57</u>	1		<u>53.00</u>	Mean actual sheer aft = <u>Deficient 99.76%</u>
1/2 L from A.P. ...	<u>23.59</u>	4		<u>94.36</u>	<u>22.91</u>	<u>24</u>	4		<u>91.64</u>	Mean actual sheer forward = <u>Excess</u>
2/2 L " ...	<u>5.83</u>	2		<u>11.66</u>	<u>5.73</u>	<u>6</u>	2		<u>11.46</u>	Mean standard sheer forward
Amidships ...	-	4		-	-	-	4		-	Length of enclosed superstructure forward of amidships =
2/2 L from F.P. ...	<u>11.66</u>	2		<u>23.32</u>	<u>11.95</u>	<u>14</u>	2		<u>23.90</u>	" " aft of
1/2 L " ...	<u>47.18</u>	4		<u>188.72</u>	<u>47.80</u>	<u>48</u>	4		<u>191.20</u>	<u>AFT SHEER</u>
F.P. ...	<u>106.02</u>	1		<u>106.02</u>	<u>108</u>	<u>110</u>	1		<u>108.00</u>	Standard
Total ...				<u>477.09</u>					<u>481.20</u>	Actual
										53.01 1 53.01 55 1 53.00
										23.59 4 94.36 22.91 4 91.64
										5.83 2 11.66 5.73 2 11.46
										- 1 -
										141.27 140.92
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$										
If limited on account of midship superstructure.										

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.801 + .68}{1.36} = \underline{1.481}$
Depth to Freeboard Deck = <u>33.56</u> Ft.	$\Delta = \underline{15.336}$ tons	Depth Correction ... <u>14.64</u>
Summer freeboard = <u>6.44</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ... <u>13.45</u>
Moulded draught (d) = <u>27.12</u>	T = <u>50</u>	Sheer correction ... <u>.12</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.78</u>	Deduction = $\frac{\Delta}{40 T}$ inches = <u>7.67</u>	Round of Beam correction ... <u>.06</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>4.30</u>		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		Summer Freeboard = <u>77.16</u>

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

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Tropical Fresh Water Line above Centre of Disc	Fresh Water Line	Tropical Line	Winter Line	Winter North Atlantic Line
<u>14 1/2"</u>	<u>7 3/4"</u>	<u>6 3/4"</u>	<u>6 3/4"</u>	<u>11"</u>

MARKING FORM

RECEIVED 19 OCT 1933

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	Forward	Forward	Forward	Forward	Forward	Forward	Forward	Forward	Forward	Forward	Forward
Dimensions of Hatchway	2'-6" x 3'-8"	8'-0" x 10'-0"	1'-10" x 1'-10"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"	6'-0" x 4'-0"
COAMINGS	Height above Deck	1'-6"	2'-6"	6"	6"	6"	6"	6"	6"	6"	6"
	Thickness	3"	4"	3"	4"	4"	4"	4"	4"	4"	4"
	Stiffeners	3"	4"	3"	4"	4"	4"	4"	4"	4"	4"
	Brackets, Stays										
HATCH BEAMS	Number	3	18	18	18	18	18	18	18	18	18
	Spacing	3'-0"	18"	18"	18"	18"	18"	18"	18"	18"	18"
	Scantling and Sketch										
	Bearing Surface										
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling and Sketch										
HATCH COVERS	Material	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel	Steel
	Thickness	4"	4"	4"	4"	4"	4"	4"	4"	4"	4"
	How fitted	Hinged	Hinged	Hinged	Hinged	Hinged	Hinged	Hinged	Hinged	Hinged	Hinged
	Bearing Surface										
Spacing of Cleats											
Number of Tarpaulins											

Particulars of fiddle, funnel and ventilator coamings:—

Smokehold gratings covered by strong steel hinged covers.
Fidley and funnel ventilators in efficient condition.
Engine room 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:—

Forecastle: 12" dia. to forepeak, Coaming 26" high.
Deck: 20" dia. to forepeak, Coaming 26" high.
Poop Deck: 20" dia. to forepeak, Coaming 26" high.
Wood plugs and canvas covers fitted to all coamings.

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

Forewell: 2 air pipes to forward Cofferdam. 3" dia. 2'-10" high.
Forecastle: 2 air pipes to double bottom tank 3 1/2" dia. 10" high.
Canvas covers fitted to all air pipes.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes:—

7 Scuppers 6 1/2" x 4" (elliptical), port starboard, discharging above foreboard deck in way of stringer angle also 3 scuppers in foreboard deck port starboard discharging through ship's side immediately below deck. 2 sanitary discharges from crew lavatory forward and 2 ditto from Engineer's lavatory aft discharging below foreboard deck, all fitted with metal storm valves.

Particulars of Side Scuttles:—

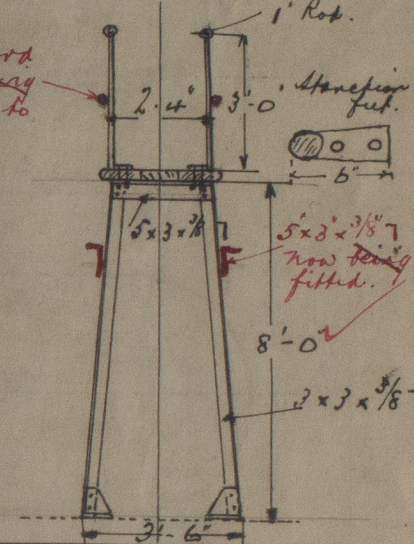
Side scuttles fitted to poop bulkhead (Forecastle), also few port & starboard to hold storeroom below foreboard deck, all of strong construction and fitted with hinged sashweights.

Particulars of Guard Rails:—

Guard rail stanchions on forecastle 3'-1 1/2" high spaced about five feet apart with two rods, those on poop being 3'-3" high, same spacing, but fitted with three rods.

Particulars of Gangways, Lifelines, etc.:—

Fore and aft gangway fitted from poop to bridge and from bridge to forecastle, with angle steel supports. spaced about 9'-0" apart platform of wood 2 1/2" thick. Guard stanchions 3'-0" high spaced about 5'-0" apart secured to platform by bolts & nuts, two in number, with washed plate.



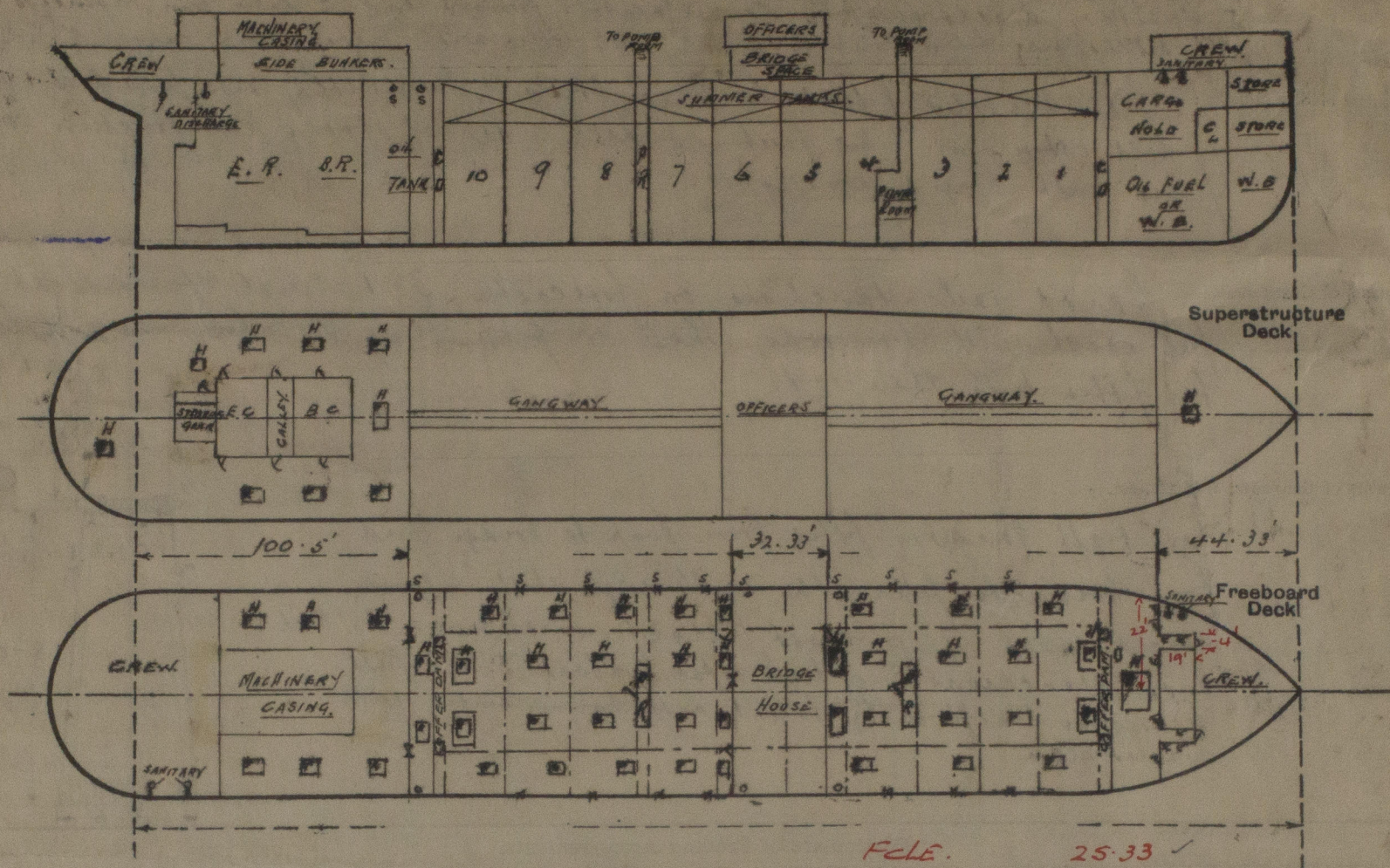
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	124'-9"	4'-0"	3'-0" x 1'-9" and open ends for 5'-0" top rail for	5	26-25 1/2	124-75
Forward Well	129'-6"	4'-0"	3'-0" x 1'-9" top rail for	5	26-25 1/2	128-19

State position of each freeing port (F. and A. position and height above deck edge):
After Well: 12'-0" 37'-4" 61'-3" 91'-6" 115'-2" } height 1'-0"
Forward Well: 6" 9'-3" 31'-3" 43'-0" 73'-0" 108'-6" } height 1'-0"
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— one bar.
Additional area where sheer is less than standard. Plan herewith showing increased freeing arrangements now being effected.

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	35	35	8 1/2 x 3 x 9/16	30	Brackets top & bottom	44'-1" x 3'-0"	1'-11"	8'-0"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	35	35	3 x 3 x 3/8	36		4'-0" x 2'-0"	1'-6"	8'-0"
Bridge, Forward Bulkhead	35	35	6 1/2 x 3 x 3/8	27	Brackets top & bottom	4'-9" x 2'-0"	1'-6"	8'-0"
Forecastle Bulkhead	35	35	3 x 2 1/2 x 3/8	36		4'-9" x 2'-0"	1'-6"	8'-0"
Trunk, Fore								
Trunk, Forward								
Exposed Machinery Casings on Freeboard	35	35	3 1/2 x 3 x 3/8	30		4'-9" x 2'-0"	1'-6"	7'-6"
Exposed Machinery Casings on Superstructure Decks	35	35	4 x 3 x 3/8	30		4'-9" x 2'-0"	1'-6"	8'-0"
Exposed Machinery Casings on Superstructure Decks	35	35	4 x 3 x 3/8	20	Brackets top & bottom	4'-9" x 2'-0"	1'-6"	7'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	35	35	4 x 3 x 3/8	32		4'-9" x 2'-0"	1'-6"	8'-0"
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	Channels with shifting boards full height. (Two in number) Thicknesses?
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	1 hinged steel door manipulated both sides 1 strong wood door do do.
Bridge, Forward Bulkhead	hinged steel door. watertight, with dogs, manipulated both sides. do?
Forecastle Bulkhead	Solid hinged wood doors manipulated from both sides.
Exposed Machinery Casings on Freeboard	Pump Room Houses. Hinged steel doors. do
Exposed Machinery Casings on Superstructure Decks	Steel hinged doors port & starboard do
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

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:—



$$\begin{array}{r} \text{F.C.L.E.} \\ 19 \times 18 \\ \hline 22 \\ \hline 25.33 \\ 15.55 \\ \hline 40.88 \\ 3.45 \\ \hline 44.33 \end{array}$$

$$\begin{array}{r} 410 = 43.01 \\ 40.88 \\ \hline 2.13 \end{array}$$

$$\begin{array}{r} \text{O.H. allowance} = 2.13 \\ + \frac{1}{2} 91.32 = .66 \\ \hline 2.79 \end{array}$$

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

$$\begin{array}{r} 27.12 \\ .19 \\ \hline 27.31 \end{array}$$

$$\begin{array}{r} A @ 27'0" = 15150 \\ .31 \times 600 = 186 \\ \hline 15336 \end{array}$$

$$\begin{array}{r} 28.48 \\ .19 \\ \hline 28.67 \end{array}$$

$$\begin{array}{r} \Delta @ 28'0" = 15750 \\ .27'0" = 15150 \\ \hline 600 \end{array}$$

$$\begin{array}{r} .67 \times 600 = 402 \\ 15750 \\ \hline 16152 \end{array}$$

Builder's name and yard number

Armstrong Whitworth & Co. Ltd.

Names of sister ships

"British Isles" & "British Princess".

Owners

British Tanker Co. Ltd.

Fee £

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Received by me



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