

WRECK SECTION

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **No. 540**
(For London Office only.)Computation of Freeboard for Steamer, Sailing Ship, Tanker
having **Roof Bridge & Forecastle**Port of Survey **Salmon**Date of Survey **16th July 1932**Name of Surveyor **Archie Murray**Particulars of Classification **100 A.1.****Carrying Petroleum in Bulk.**
SS. 7th No. 3-929

Ship's Name **BRITISH PRINCESS** Nationality and Port of Registry **British London** Official Number **140298** Gross Tonnage **7052⁺** Date of Build **1917**

Moulded Dimensions: Length **420.0** Breadth **56.75** Depth **33.5**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **15900** tons

Coefficient of fineness for use with Tables **801**

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 33.5	(a) Where D is greater than Table depth (D - Table depth) R = (33.56 - 28.67) 3.00 = + 14.67"	Moulded Breadth (B) 56.75
Stringer plate ... 06	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{56.75 \times 12}{50} = \mathbf{13.62}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = 14
Depth for Freeboard (D) = 33.56		Difference Excess 38
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{38}{4} \times .5895 = \mathbf{-0.6}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poep enclosed ...	100.5	100.50	8.0		100.50
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	32.33	32.33	8.0		32.33
" overhang aft ...					
" overhang forward ...	41.15	41.15	8.0		41.15
F'cle enclosed Equi ...	44.33	44.15	8.0		44.15
" overhang ...	3.18	2.52			2.52
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	177.16	176.50			176.50

Standard Height of Superstructure **7.5**

" " R.Q.D. **✓**

Deduction for complete superstructure **42.00**

Percentage covered $\frac{S}{L} = \frac{176.50}{420.0} = \mathbf{41.20\%}$

" " $\frac{S_i}{L} = \frac{176.50}{420.0} = \mathbf{41.05\%}$

" " $\frac{E}{L} = \frac{176.50}{420.0} = \mathbf{41.05\%}$

Percentage from Table, Line A. Tanker **32.05%**
(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 = **42.00** \times **32.05** = **-13.46"**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	53.00	1	53.00	55.00	55.00	55.00	1	55.00	55.00
$\frac{1}{2}$ L from A.P. ...	23.58	4	94.32	23.00	22.91	22.91	4	91.64	91.64
$\frac{3}{8}$ L " ...	5.83	2	11.66	6.00	5.71	5.71	2	11.42	11.42
Amidships ...	✓	4	0.00	0.00	0.00	0.00	4	0.00	0.00
$\frac{3}{8}$ L from F.P. ...	11.66	2	23.32	11.00	11.92	11.92	2	23.84	23.84
$\frac{1}{2}$ L " ...	47.17	4	188.68	48.00	47.79	47.79	4	191.16	191.16
F.P. ...	106.00	1	106.00	109.00	108.00	108.00	1	108.00	108.00
Total ...								481.06	

Mean actual sheer aft = **Deficient** over 75%

Mean standard sheer aft = **Deficient**

Mean actual sheer forward = **Excess**

Mean standard sheer forward = **Excess**

Length of enclosed superstructure forward of amidships =

" " aft of " =

Station	Standard	Actual	Station	Standard	Actual
A.P.	53.00	53.00	A.P.	53.00	53.00
$\frac{1}{2}$ L	23.58	22.91	$\frac{1}{2}$ L	23.58	22.91
$\frac{3}{8}$ L	5.83	5.71	$\frac{3}{8}$ L	5.83	5.71
Amidships	0.00	0.00	Amidships	0.00	0.00
$\frac{3}{8}$ L from F.P.	11.66	11.92	$\frac{3}{8}$ L from F.P.	11.66	11.92
$\frac{1}{2}$ L from F.P.	47.17	47.79	$\frac{1}{2}$ L from F.P.	47.17	47.79
F.P.	106.00	108.00	F.P.	106.00	108.00
Total	177.16	176.50	Total	177.16	176.50

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{4.08}{18} \left(\frac{75-20.6}{2} \right) = \mathbf{-1.2}$

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 Freeboard Deck = **33.56**

Summer freeboard = **6.44**

Moulded draught (d) = **27.12**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $\frac{27.12}{4} = \mathbf{6.78}$

Addition for Winter North Atlantic Freeboard (if required) = **4.30** = **4.4"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = \mathbf{15332}$

Tons per inch immersion at summer load water line

$T = \mathbf{50}$

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

= $\frac{15332}{40 \times 50} = \mathbf{7.67} = \mathbf{7\frac{3}{4}"}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{801 + .68}{1.36} = \frac{1481}{1360}$

	+	-
Depth Correction ...	14.67	-
Deduction for superstructures ...	-	13.46
Sheer correction ...	-	.12
Round of Beam correction ...	-	.06
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	14.67	13.64

Summer Freeboard = **77.15**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	14$\frac{1}{2}$	Tropical Fresh Water Freeboard ...	6' - 5$\frac{1}{4}$"
Fresh Water Line " " ...	7$\frac{3}{4}$	Fresh Water " " ...	5' - 2$\frac{3}{4}$"
Tropical Line " " ...	6$\frac{3}{4}$	Tropical " " ...	5' - 9$\frac{1}{2}$"
Winter Line below " " ...	6$\frac{3}{4}$	Winter " " ...	5' - 10$\frac{1}{2}$"
Winter North Atlantic Line " " ...	11	Winter North Atlantic " " ...	7' - 0"
			7' - 4$\frac{1}{4}$"

20 JUL 1932

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

[illegible]

Particulars of fiddley, funnel and ventilator coamings:—

Household gratings covered by strong steel hinged covers.
Lidley funnel and sinterator. in efficient condition.
Engine room skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

Now

Particulars of Companionways :—

See Closing Appliances
in Forecastle
Buckhead.

~~Comparison to quarters below freeboard deck in starboard passage way in forecabin fitted with hardwood door. N. B. This door now being replaced by hinged steel door operated from both sides, sill 18" high.~~

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

Forecastle deck: { 1 2 12' head to forepeak Coaming 24" x 3/8"
2 2 10' " " Store room " " "
7 2 7' " " Crew space " " 1/4"
1 2 12' " " Hold. " " 3/8"

Freeboard deck { 10 6" high to hull
10 12" " " "
20 12" " " to front transverse
20 12" " " aft
Commoning 36" \times 3/8"

Wood plating and canvas covers provided for all vent. Coaming. Topt. deck
of Air Pipes in exposed positions on freeboard, ~~raised quarter~~, or superstructure decks:—

recastle	2 p	3 $\frac{3}{4}$ " diam	8" high	from double bottom tank
below deck	2 p	3"	2"	

Roof, back } 20 ft. high }
 framing. ✓ } 80 ft. 6 in. }
 } 70 ft. 6 in. }

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

Forecastle	2	p	$3\frac{3}{4}$ "	dist	8"	high		from double bottom tank
Treboard deck	2	s	3"	.	30"	.	.	Coffers dams.
Prop.	1	s	$3\frac{1}{2}$ "	.	30"	.	.	double bottom tank

Particulars of Gangway Cargo and Coaling Ports:—

heights measured from opening in air pipe. All openings provided with canvas covers for closing purposes. ✓

None. ✓

Particulars of Scuppers and Sanitary Discharge Pipes:—

7 Scuppers $6\frac{1}{2} \times 4$ (elliptical) P & S. discharging above foreboard deck in way of stringer ongh. also 3 scuppers in foreboard deck P.S. discharging through side immediately below deck.
2 sanitary discharges from Crews lavatory forward and 2 ditto from Engineers lavatory discharging below foreboard deck from bridge, discharging above foreboard deck, all fitted with metal non return storm valves.

Particulars of Side Scuttles:—

Side scuttles to poop. Bridge & Forecastle also five in quarters below forecastle deck P.S. of strong construction and fitted with hinged deadlights.

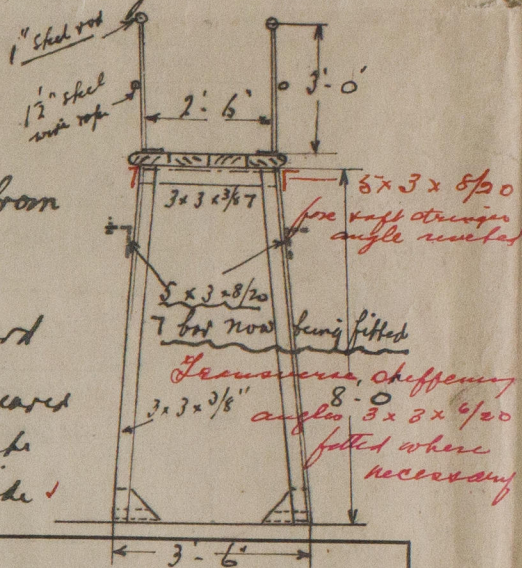
Particulars of Guard Rails:—

Guard rail stanchions on forecastle deck $3'-1\frac{1}{2}"$ high spaced about 5 feet apart. with two rods, those on poop deck being $3'-3$ high, about 5 feet apart with three rods.

Particulars of Gangways, Lifelines, etc.:—

Fore and aft gangway fitted from poop to bridge and from bridge to forecastle, platform of pitch pine $2\frac{1}{2}"$ thick. Steel angle supports spaced about 9 feet apart, Guard stanchions 3 feet high, spaced about 5 feet apart. secured to platform by bolts & nuts. (2 in number) with washers plate under wood platform. 2 efficient guard rails fitted each side.

Transverse diagonal bracing fitted at ends. 11/8/42



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'-6"	4'-0"	<i>open rails for 59'-6"</i> $3'-0 \times 1'-9"$ <i>2 circular ports 18" and 12" dia</i>	<i>5-2</i>		<i>50% open rails</i>
Forward Well ...	129'-6"	4'-0"	<i>open rails for 64'-6"</i> $3'-0 \times 1'-9"$ <i>as per plan approved</i>	<i>5-2</i>		"
State position of each freeing port ... (F. and A. position and height above deck edge) } After Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— } Forward Well:— Additional area where sheer is less than standard. } <i>1 ft.</i>						

Plan herewith showing alterations to bulwarks now in hand.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

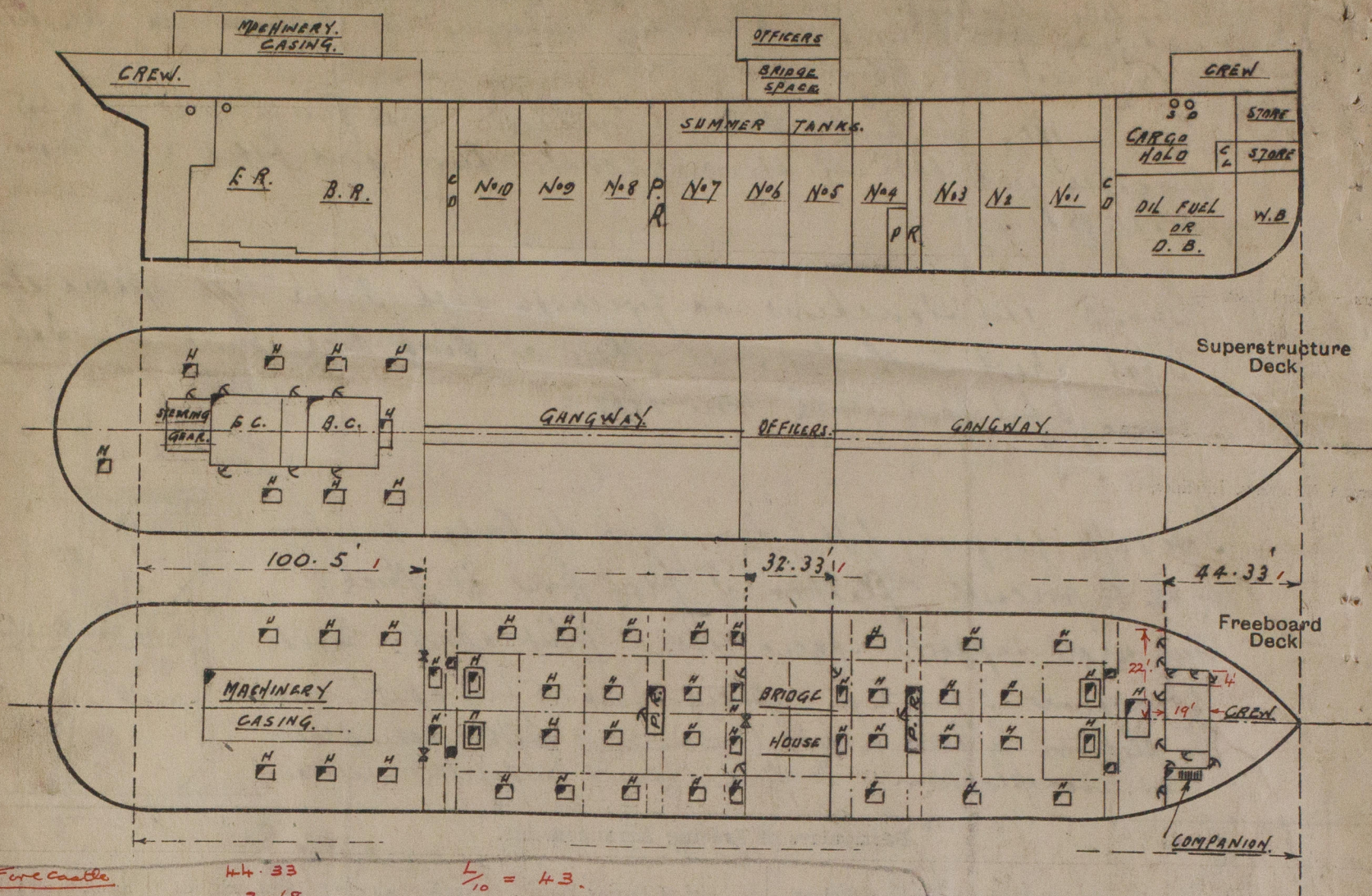
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	✓	$9/20$	$9 \times 3\frac{1}{2} \times 9/20$	30 ✓	Brackets top & bottom	$4'-0 \times 3'-3$	23"	8'-0
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	✓	$7/20$	$4 \times 3 \times 7/20$	36"	None	$4'-9 \times 2'-0$ $4'-0 \times 3'-0$ $4'-0 \times 2'-0$	16" 24" 18"	8'-0
Bridge, Forward Bulkhead ...	✓	$9/20$	$7 \times 3\frac{1}{2} \times 9/20$	30"	Brackets top & bottom	$5'-0 \times 2'-0$	18"	8'-0
Forecastle Bulkhead ...	✓	$6/20$	$3 \times 2\frac{1}{2} \times 6/20$	36"	None	$4'-9 \times 2'-0$	18"	8'-0
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Freeboard on Raised Quarter Decks ...	<i>2 Pump Room trunks</i>	$7/20$	$3\frac{1}{2} \times 3 \times 7/8$	30"	None	$4'-9 \times 2'-0$	18"	7'-6
Exposed Machinery Casings on Superstructure Decks ...		$7/20$	$4 \times 3 \times 7/8$	30	Brackets top	$4'-9 \times 2'-0$	18"	7'-7"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...		$6/20$	<i>2 horizontal 4 x 3 x 9/20 32" also vertical deck plates (4 in No.)</i>		✓	✓	✓	8'-0
Deckhouses on Flush Deck Ships ...	✓							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	<i>Riveted Channels with 3 inch storm boards full height.</i>
Raised Quarter Deck Bulkhead ...	<i>1 hinged steel door manipulated from both sides</i>
Bridge, After Bulkhead ...	<i>replaced by hinged steel door manipulated from both sides, 1 hinged wood door now being replaced by riveted channels & 3 storm boards full height</i>
Bridge, Forward Bulkhead ...	<i>1 hinged steel watertight door, manipulated from both sides</i>
Forecastle Bulkhead ...	<i>1 hinged steel and hardwood door, manipulated from both sides</i>
Exposed Machinery Casings on Freeboard on Raised Quarter Decks ...	<i>Pump Room trunks: Hinged steel doors manipulated from both sides.</i>
Exposed Machinery Casings on Superstructure Decks ...	<i>Machinery & Galley doors: Hinged steel doors manipulated from both sides.</i>
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 shewn on the following sketches:—

"BRITISH PRINCESS"



Fore Castle
Recess $\frac{4 \times 19}{22}$

$\frac{44.33}{3.18}$
 $\frac{41.15}{1.85}$
overhang 3.18.

$\frac{L}{10} = 43.$

$\frac{41.15}{1.85}$

Overhang allowance $= 1.85 + \frac{1.33}{2}$

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

Vessel surveyed in dry dock for Convention freeboard measurements and Condition Survey.

The following alterations are now in hand in connection with Convention Freeboard: viz:—

- (1) Steel cover to forward Cargo hatchway in lieu of wood, as per plan.
- (2) Bulwarks to plan herewith.
- (3) Two fore baffle stringer angles to gangway supports.
- (4) Hinged steel door in lieu of wood to bridge after bulkhead, starboard, operated both sides.
- (5) Hinged steel door in lieu of wood to companion leading to quarters below forecastle, starboard, operated both sides.

Builder's name and yard number

Armstrong Whitworth & Co. Ltd.

Names of sister ships

"British Isles" & "British Insign" — This Report refers to the "BRITISH PRINCESS"

Owners

British Tankers Co. Ltd.

Fee £

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