

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

No. 19326

JUN 1932

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~  
having Pop. Bridge & Forecastle Decks  
(Type of Superstructures.)

Ship's Name S.S. British Officer Nationality and Port of Registry British London Official Number 146646 Gross Tonnage 6990 Date of Build 1922  
Name of Surveyor R.H. Armstrong

Moulded Dimensions: Length 439' Breadth 56'75" Depth 33'11"  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 16178 tons  
Coefficient of fineness for use with Tables .488

Particulars of Classification +100.A.T  
Carrying Petroleum in bulk  
Rated for Oilfuel H-22.F.P. above 150F

Depth for Freeboard (D) 33.92  
Moulded depth ... 33'11"  
Stringer plate .74 ... .96  
Sheathing on exposed deck .90 AT MARKING  
 $T \left( \frac{L-S}{L} \right) =$   
Depth for Freeboard (D) = 33.98

Depth correction  
(a) Where D is greater than Table depth  
(D - Table depth) R = (33.98 - 29.27) x 3 = 14.13  
(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) 56'75"  
Standard Round of Beam =  $\frac{B \times 12}{50} =$  13.62  
Ship's Round of Beam = 14  
Difference .38  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.38}{4} \times .5549 = .05$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>113'48"</u>	<u>113.00</u>	<u>8'-0"</u>		<u>113.00</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<u>32'-0"</u>	<u>32.00</u>	<u>8'-0"</u>		<u>32.00</u>
" overhang aft ...	<u>1.25</u>	<u>.78</u>			<u>.78</u>
" overhang forward	<u>1.83</u>	<u>.77</u>			<u>.77</u>
F'cle enclosed EQUIV...	<u>56'-39"</u>	<u>46.39</u>	<u>8'-0"</u>		<u>46.39</u>
" overhang ...	<u>4.88</u>	<u>2.43</u>	<u>7'3" wood</u>		<u>2.43</u>
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<u>198.91</u>	<u>195.45</u>			<u>195.45</u>

Standard Height of Superstructure 4.50  
" " R.Q.D. ✓  
Deduction for complete superstructure 42.00  
Percentage covered  $\frac{S}{L} =$  45.31  
"  $\frac{S_1}{L} =$  44.51  
"  $\frac{E}{L} =$  44.51  
Percentage from Table, Line A. TANKER.  
(corrected for absence of forecastle (if required)) 35.51  
Percentage from Table, Line B.  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than 2L (if required) TANKER.  
Deduction = .3551 x 42 = 14.92

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate TO USE	S M	Product
A.P. ...	<u>53.90</u>	<u>1</u>	<u>53.90</u>	<u>47</u>	<u>48.00</u>	<u>1</u>	<u>48.00</u>
$\frac{1}{2}$ L from A.P. ...	<u>23.99</u>	<u>4</u>	<u>95.96</u>	<u>23</u>	<u>20.94</u>	<u>4</u>	<u>83.76</u>
$\frac{3}{4}$ L " ...	<u>5.93</u>	<u>2</u>	<u>11.86</u>	<u>7</u>	<u>5.22</u>	<u>2</u>	<u>10.44</u>
Amidships ...		<u>4</u>				<u>4</u>	
$\frac{3}{4}$ L from F.P. ...	<u>11.86</u>	<u>2</u>	<u>23.72</u>	<u>14</u>	<u>11.12</u>	<u>2</u>	<u>23.44</u>
$\frac{1}{2}$ L " ...	<u>44.97</u>	<u>4</u>	<u>191.88</u>	<u>48</u>	<u>44.00</u>	<u>4</u>	<u>188.00</u>
F.P. ...	<u>107.80</u>	<u>1</u>	<u>107.80</u>	<u>109</u>	<u>108.00</u>	<u>1</u>	<u>108.00</u>
Total ...			<u>485.12</u>				<u>461.64</u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{23.48}{18} (.75 - .2265) = +.68$

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.

AT MARKING Ft.  
Depth to Freeboard Deck  $\checkmark =$  33.99  
Summer freeboard  $=$  6.50  
Moulded draught (d)  $=$  27.49

Deduction for Tropical freeboard and addition for Winter freeboard  $= \frac{d}{4}$  inches  $=$  6.87  
Addition for Winter North Atlantic Freeboard (if required)  $=$  4.39 = 4\frac{1}{2}"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$  15442

Tons per inch immersion at summer load water line

T = 50.6

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

$=$  4.63

4\frac{3}{4}"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.488 + .68}{1.36} = \frac{1.168}{1.36}$

Depth Correction ... 14.13  
Deduction for superstructures ... 14.92  
Sheer correction ... .68  
Round of Beam correction ... .05  
Correction for Thickness of Deck amidships ... .16  
Other corrections, scantlings, etc. ...

	+	-
Depth Correction	<u>14.13</u>	
Deduction for superstructures		<u>14.92</u>
Sheer correction	<u>.68</u>	
Round of Beam correction		<u>.05</u>
Correction for Thickness of Deck amidships	<u>.16</u>	
Other corrections, scantlings, etc.		
	<u>14.97</u>	<u>14.97</u>

Summer Freeboard = 44.98

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

Tropical Fresh Water Line above Centre of Disc ... 14\frac{1}{2}"  
Fresh Water Line " " ... 4\frac{3}{4}"  
Tropical Line " " ... 6\frac{3}{4}"  
Winter Line below " " ... 6\frac{3}{4}"  
Winter North Atlantic Line " " ... 11\frac{1}{2}"

Tropical Fresh Water Freeboard ... 5'-3\frac{1}{2}"  
Fresh Water " " ... 5'-10\frac{1}{2}"  
Tropical " " ... 5'-11\frac{1}{2}"  
Winter " " ... 4'-0\frac{3}{4}"  
Winter North Atlantic " " ... 4'-5\frac{1}{2}"

3 JUN 1932

MARKING FORM

RECEIVED JUN 1932

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## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS													
Description of Hatchway	No 1.	FOR <sup>W</sup> WELL					AFTER <sup>W</sup> WELL		ON <sup>W</sup> CLE		ON <sup>W</sup> POOP		
		TO <sup>W</sup> FOR <sup>W</sup> PUMP <sup>W</sup> RM	SUMMER TANKS 2 P. 2 S.	MAINTANKS 4 P & 4 S	FORWARD COFFERDAM 1 P & 1 S	SUMMER TANKS 3 P. 3 S.	MAINTANKS.	TO <sup>W</sup> FOR <sup>W</sup> PEAK	TO <sup>W</sup> FOR <sup>W</sup> FOREPK.	BUNKER MATCHES 2 P. 2 S.	TO <sup>W</sup> WASH PLACE		
Dimensions of Hatchway	9'-2"x12'-0"	4'-0"x3'-0"	5'-9"x3'-8 1/2"	5'-9"x3'-9"	21'x13 1/2"	5'-9"x3'-9"	5'-9"x3'-9"	3'-9"x3'-9"	2'-7"x4'-0"	2'-3"x2'-3"	4'-0"x8'-11"	2'-3"x2'-3"	
COAMINGS	Height above Deck	2'-6"	2'-6"	18" TO 15"	12"x3 1/2"x50 BA	10 1/2"x3"x44 B.A.		18" TO 16"	4"x3"x5 L.	18"	2'-6"	2'-3"	
	Thickness	50"	36"	44"						36"	36"	36"	
	Sides	44"	36"	44"			AS FOR <sup>W</sup>	AS FOR <sup>W</sup>	44"	36"	36"	36"	
	Ends	44"	36"	44"					44"	36"	36"	36"	
	Stiffeners	7"x3"x3/8"	—	—									
Brackets, Stays	—	—	—										
HATCH BEAMS	Number	1											
	Spacing	4'-7"											
	Scantling and Sketch	12" CR. 6" END x 36"											
		3"x3"x40"											
	Bearing Surface	3"											
FORE AND AFTERS	Number												
	Spacing												
	Unsupported Lengths												
	Scantling* and Sketch												
	Bearing Surface												
HATCH COVERS	Material	STEEL W.W.	STEEL W.W.	STEEL	STEEL	STEEL	AS FOR <sup>W</sup>	AS FOR <sup>W</sup>	STEEL	STEEL	W.W.	W.W.	
	Thickness	3/4" 50	3/4" 50	50"	62"	44"			56"	36"	2 1/2"	3"	
	How fitted	HINGED	HINGED	HINGED	HINGED	HINGED			HINGED	HINGED	P. S.	P. S.	
	Bearing Surface	3"	3 1/2"	2"	2"	1 1/4"			2"	RUBBER JOINT	4"	3"	
Spacing of Cleats	21'x24"	18"	15'x13 1/2" CLIPS	15'x13" CLIPS	15" CLIPS	AS FOR <sup>W</sup>	AS FOR <sup>W</sup>	15" CLIPS.	—	18" CLIPS.	15"	15"	
Number of Tarpaulins	3	3	16-1/2" dia bolts & Butterflies.	16-1/2" dia bolts & Butterflies.	4-1/2" dia bolts & Butterflies.	AS FOR <sup>W</sup>	AS FOR <sup>W</sup>	16-1/2" dia bolts & Butterflies.	—	2 Butterflies.	2	2	
*Are wood fore and afters steel shod at all bearing surfaces?													
Are battens and wedges efficient and in good condition? <b>Yes</b>													
Are tarpaulins in good condition and in accordance with rule requirements? <b>Yes</b>													
Are lashings provided in accordance with rule requirements? <b>Yes</b>													

Particulars of fiddley, funnel and ventilator coamings :—

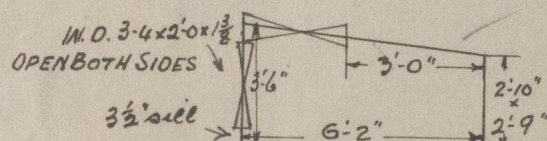
Casing Top plated. Gratings covered by strong steel hinged covers.  
Main Tunnel riveted to Casing Top.  
Fidley & Engine Room Vents in efficient condition.  
Engine Room skylight steel plating strongly constructed  
& hinged flaps each side. 3 glass circles in each.

Particulars of Flush Bunker Scuttles:—

Stone.

Particulars of Companionways :—

1. Steel companion on Roof House. Hinged Wood door & Wood roof slide cover.  
25" plating leading to Mess Room. ✓



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

[illegible]

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

1 - Steel air pipe on 1<sup>st</sup> Blc. Dk. 12" high 3 1/2" dia. from Fore Bk.  
2 - " " " " " 15" " 5" " " FORE DEEP TANK.  
1 - " " " " " Freeb? " 2-0" " 2" " " F.W. TANK.  
2 - " " " " " " 14" " 6 1/2" " FORD COFF?   
2 - " " " " " " " " " " AFTER "   
2 - " " " " " " " " " " F.W. TANKS

Particulars of Gangway Cargo and Coaling Ports:—

None.



Particulars of Scuppers and Sanitary Discharge Pipes —		Engineers W.C. Boop House. 3" dia. discharge Valve on Ship's side above Freeboard Dk.									
W.C. Hospital Bridge	3 3/4" disch. Valve on Ship's side	" Bath	"	"	2"	"	"	"	"	"	"
BATH	2	W.C	"	"	4	"	"	"	"	"	Below
Below Freeboard Deck.		W.C	"	"	4	"	"	"	"	"	"
W.C Bridge Port.	3 3/4" disch.	WASH PLACE	"	"	2	"	"	"	"	"	"
BATH	2	Officers W.C Bridge	"	"	3 3/4	"	"	"	"	"	above
above Freeboard Dk.		Capt's Bath	"	"	2"	"	"	"	"	"	"
		W.C	"	"	3 3/4	"	"	"	"	"	"
		" Bath	"	"	2 1/2	"	"	"	"	"	"

Particulars of Guard Rails:—

On	Loc.	Deck.	3'-6"	high	with	three	rods	and	stanchions	4'-8"	apart.
"	Poor	"	3'-4"	"	"	"	"	"	"	3'-6"	4'-2"
"	Treeboard	"	3'-1"	"	"	1	"	"	"	3'-6"	around Cargo Hatch.
"	"	"	3'-1"	"	"	1	"	"	"	3'-11"	apart " Summer "

5'-3" apart

3'-0"

9" x 2 1/2"

3'-2"

ONE STEEL WIRE

ROD CHAIN AT HATCH

stanchions fixed clear of Hatch

6" x 4" x 1/4" T.BAR

3' x 3' x 37"

1'-6"

9' x 10' 50

8'-3"

3' x 3' x 37"

10' x 10' x 50

4' x 4' x 4'

15' x 12' x 50

7'-0"

F & A GANGWAY, F.CLE TO BRIDGE

" " " BRIDGE " POOP.

" " " \* Portable in way of N<sup>o</sup> 1 Hatch.

" " " \* Efficiently supported,

and constructed

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 ... ..	—	•44"	9½" x 3" x 50BA	2'-6"	Bkls. T & B	To P & S. 5'-1" x 3'-6"	19"	8'-0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	—	•36"	4" x 3" x 36L	2'-6"	—	W.T.O. 5'-0" x 2'-6" T.O. 5'-1" x 3'-6"	19"	8'-0"
Bridge, Forward Bulkhead ... ..	—	•36"	7" x 3½" x 36L	2'-6"	Bkls. T & B	W.T.O. 5'-1" x 3'-0"	19"	8'-0"
Forecastle Bulkhead ... ..		•25"	4½" x 3" x 3/8"	2'-7"	—	W.O. 4'-7" x 26" x 1½"	19"	8'-0"
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks ... ..	—	•32"	3" x 3" x 36"	2'-9"	Bkls. TOP	S.O. 4'-9" x 2'-0" W.O. 4'-7" x 2'-2"	18½" 16"	8'-0"
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	T.O. P&S. 5'-1" x 3'-6" sill 19" Channels full height. No weather boards. Steel plate 50" thick secured by clamps and 12- $\frac{3}{4}$ bolts & nuts. Rubber joint. Opened from outside.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Glass circles. Hinged steel W.T. Doors. Opened from both sides T.O. Weather boards 8" x 2 $\frac{1}{2}$ ". Channels full height
Bridge, Forward Bulkhead	" " " " Door " " " " Glass circles.
Forecastle Bulkhead	STEEL and Hinged Wood Doors " " " " " "
Exposed Machinery Casings on Free-board or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel & Wood Doors. Opened from both sides.
Deckhouses on Flush Deck Ships	



structure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—

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

Builder's name and yard number *Palmer's Co. Ltd. Newcastle.*

Names of sister ships

Owners *British Tanker Co. Ltd.*

Fee £ 14

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