

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Poop Bridge & Forecastle
(Type of Superstructures.)
Port of Survey Newcastle upon Tyne
Date of Survey whilst building
Name of Surveyor Log Craig
Particulars of Classification +100 A.1.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"BRITISH ENDURANCE"	British London	164726	8300 8406	1936-10
Moulded Dimensions: Length <u>464.21</u> Breadth <u>61.75</u> Depth <u>34.04</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>18198</u> tons				
Coefficient of fineness for use with Tables <u>.77</u> includes 11 tons for cruiser stern.				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth 34.04	(a) Where D is greater than Table depth (D-Table depth) R = (34.11 - 30.94) 3 = + 9.51	Moulded Breadth (B) 61.75
Stringer plate ... 82" 0.04	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50}$ = 14.82
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓	If restricted by superstructures	Ship's Round of Beam $\frac{B \times 12}{50}$ = 15"
Depth for Freeboard (D) = 34.11		Difference 18
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{18^2}{4} \times .5809$ = Nil.

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	103.0	103.00	8'-0" and 8'-7" at transom	✓	103.00
" overhang ...	3.5	1.45			1.45
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	36.0	36.00	8'-0"	✓	36.00
" overhang aft ...	3.0	2.25			2.25
" overhang forward ...	3.5	1.45			1.45
F'cle enclosed ...	10.21	10.21	8'-0"	✓	10.21
" overhang ...	43.14	39.59			39.59
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	202.35	194.55			194.55

Standard Height of Superstructure	7.50
" " R.Q.D.	
Deduction for complete superstructure	42.00.
Percentage covered $\frac{S}{L} =$	43.59.
" " $\frac{S_1}{L} =$	41.91.
" " $\frac{E}{L} =$	41.91.
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. Tanker 32.91 (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = 42.00 x .3291 =	- 13.8

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate in inches	Effective Ordinate	S	Product
A.P. ...	56.42	1	56.42	38.0	38.0	1	38.00
$\frac{1}{4}$ L from A.P. ...	25.105	4	100.42	21.87	21.87	4	87.48
$\frac{3}{4}$ L " ...	6.205	2	12.41	6.00	6.0	2	12.00
Amidships ...	✓	4	✓	✓	✓	4	✓
$\frac{3}{4}$ L from F.P. ...	12.41	2	24.82	12.25	12.25	2	24.50
$\frac{1}{4}$ L " ...	50.21	4	200.84	50.12	50.12	4	200.48
F.P. ...	112.84	1	112.84	113.00	113.00	1	113.00
Total ...			504.75				445.46

	Standard	Actual.
Mean actual sheer aft =	12.41	12.25
Mean standard sheer aft =	50.21	50.12
Mean actual sheer forward =	112.84	113.00
Mean standard sheer forward =	99.8%	300.11

Length of enclosed superstructure forward of amidships =
L
aft of " =
SHEER AFT

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{59.29}{18} \left(75 - \frac{21.79}{2} \right) = + 7.0$
If limited on account of midship superstructure.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck =	34.11
Summer freeboard =	6.43
Moulded draught (d) =	27.38

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $6.84 = 6\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) =

$6.84 + 4.64 = 11.48 = 11\frac{1}{2}$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 14210$

Tons per inch immersion at summer load water line

$T = 58.1$

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

= 7.4

= $7\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

$\frac{.44 \times 68}{1.56}$

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

Tropical Fresh Water Line above Centre of Disc ...	14.4"	Tropical Fresh Water Freeboard ...	6'-8.34"
Fresh Water Line " " ...	7.4"	Fresh Water " " ...	6'-1.4"
Tropical Line " " ...	6.2"	Tropical " " ...	6'-2"
Winter Line below " " ...	6.2"	Winter " " ...	4'-9.5"
Winter North Atlantic Line " " ...	11.2"	Winter North Atlantic " " ...	4'-8.4"

25 SEP 1936

British Endurance

Particulars of fiddle, funnel and ventilator coamings :-
 Fiddle vent & funnel coamings of steel ✓
 Fiddle openings covered by hinged steel covers ✓
 Engine skylight of steel strongly constructed.

None

[illegible][illegible][illegible]

None.

all discharges from Poop + Forecastle spaces discharging below freeboard deck are fitted with brass storm valves.

all side scuttles fitted with strong linged deadlights.

Pool dh:- 3 tier rails 3'6" high with stanchions 4'6" apart.
Forecastle:- 3 tier " 3'6" " " " 4'0" "
Bridge:- Steel bulwark at sides 3'7" high with leak rail.
Rails & stanchions at ends 2 rod & leak rail 3'7" high, stanchions 4'6" apart.

Diagram of a derrick structure with dimensions and material specifications:

- Top width: 3'-0"
- Top height: 8'-0" high
- Top section: 2 tier wires 3'-6" high & stanchions 4'-3" apart, 2 1/2" spaced wood platform, 6 x 3 1/2 x .40 angles
- Second section: 6 x 3 x .40
- Third section: 4 x 4 x .40 angles
- Bottom width: 5'-0"
- Stanchions spaced 6'-3" to 8'-0" apart

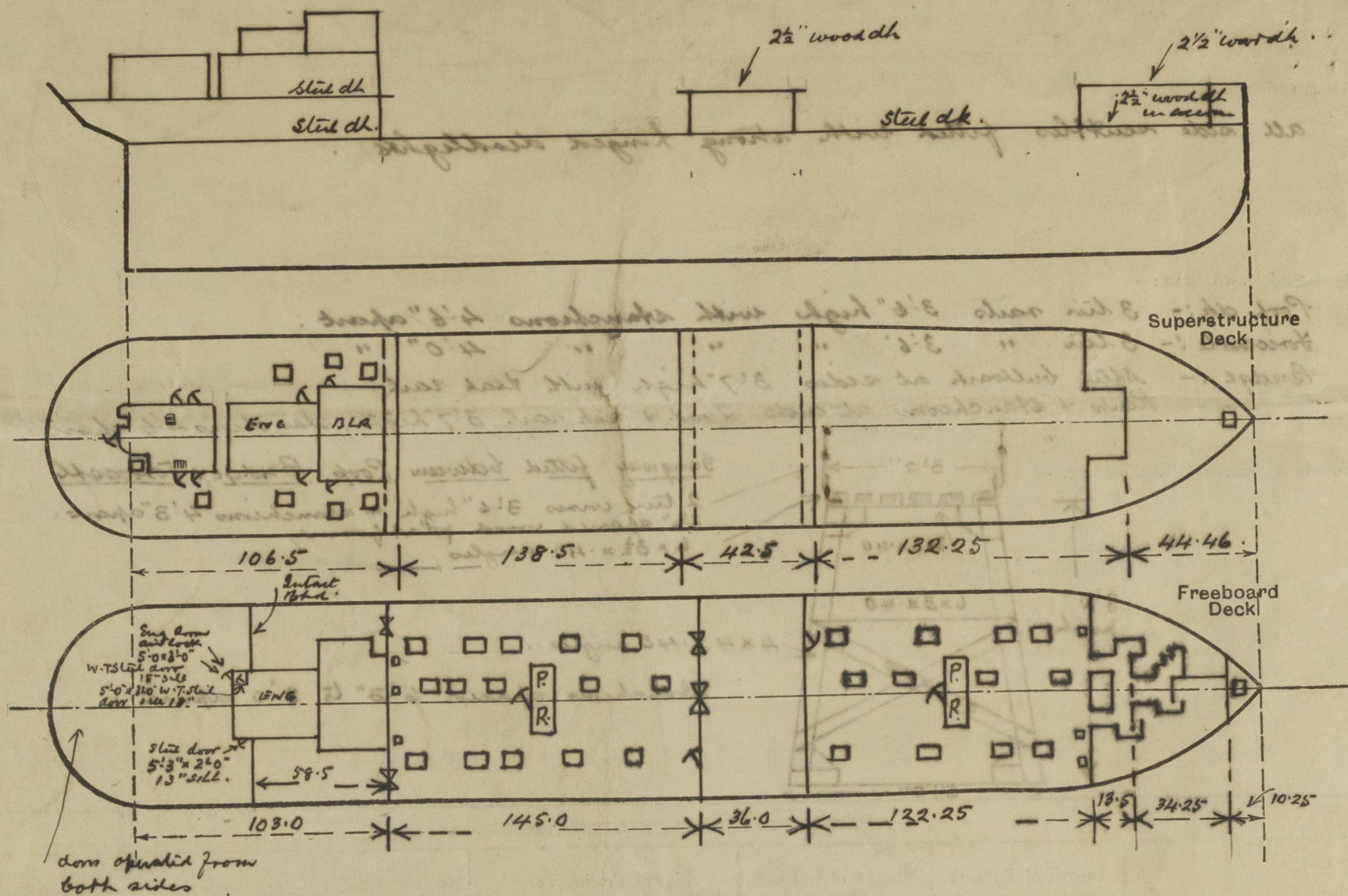
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well						
Forward Well						
<p>State position of each freeing port (F. and A. position and height above deck edge)</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—</p> <p>Additional area where sheer is less than standard.</p>						

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	44 ✓	44 ✓	10 x 3½ x 40 ✓	30" ✓	lugged ✓	2 at 4'0" x 3'-1" ✓	19" ✓	8'0" ✓
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	30 ✓	30 ✓	4½ x 3 x 24 ✓	29" ✓	none	1 at 5'1" x 4'-1" ✓ 1 at 4'0" x 3'-1" ✓ 1 at 5'0" x 3'0" ✓	19" ✓ 19" ✓ 18" ✓	8'0" ✓
Bridge, Forward Bulkhead	44 ✓	44 ✓	10 x 3½ x 40 ✓	30" ✓	lugged ✓	1 at 5'0" x 3'0" ✓	18" ✓	8'0" ✓
Forecastle Bulkhead	30 ✓	30 ✓	4 x 3 x 35 ✓	28" to 32" ✓	none	4 at 5'0" x 2'1" ✓ 3 at 5'0" x 2'0" ✓ 1 at 4'5" x 2'3" ✓	18" ✓	8'0" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks								
Exposed Machinery Casings on Super-structure Decks	30 ✓	26 ✓	3½ x 2½ x 36 ✓	21" to 24" ✓	none	4 at 5'3" x 2'0" ✓	15½" ✓	5'0" to 6'6" FOLEY ✓ 8'0" to 4'6" Eng.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	34 ✓	26 ✓	3½ x 2½ x 36 ✓	21" to 30" ✓	riveted to beams in double-ster none continuous to casings top in Eng. space ✓	✓	✓	8'0" ✓
Deckhouses on Flush Deck Ships								

Poop Bulkhead	2 openings	{ closed with hook bolted plates and also closed with 3" storm boards in channels full height.
Raised Quarter Deck Bulkhead				
Bridge, After Bulkhead	2 openings	closed with hook bolted plates and also with 3" storm boards in channels for full height.
Bridge, Forward Bulkhead	1 opening	closed with hinged steel W.T. door operated from both sides
Forecastle Bulkhead	1 opening	closed with hinged steel W.T. door operated from both sides
Exposed Machinery Casings on Floor Board or Raised Quarter Decks	4 openings	closed with hinged steel W.T. doors operated from both sides
Exposed Machinery Casings on Superstructure Decks	2	" " " hinged steel doors " " "
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	4	" " " " 2" solid hinged tank doors " " "
Deckhouses on Flush Deck Ships	5	" " " " 2" " " pine " " " "
			4 openings	closed with hinged steel doors operated from both sides

British Indurance

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, external 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:-



FORECASTLE

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

overshell displacement including 7 tons } = 17531 tons
for cruiser stern at 28'0" full draft

overshell displacement including 5 tons } = 16832 tons
for cruiser stern at 27'0" full draft

Moulded T.P.I. including stern at 28'0" B.K. = 58.29

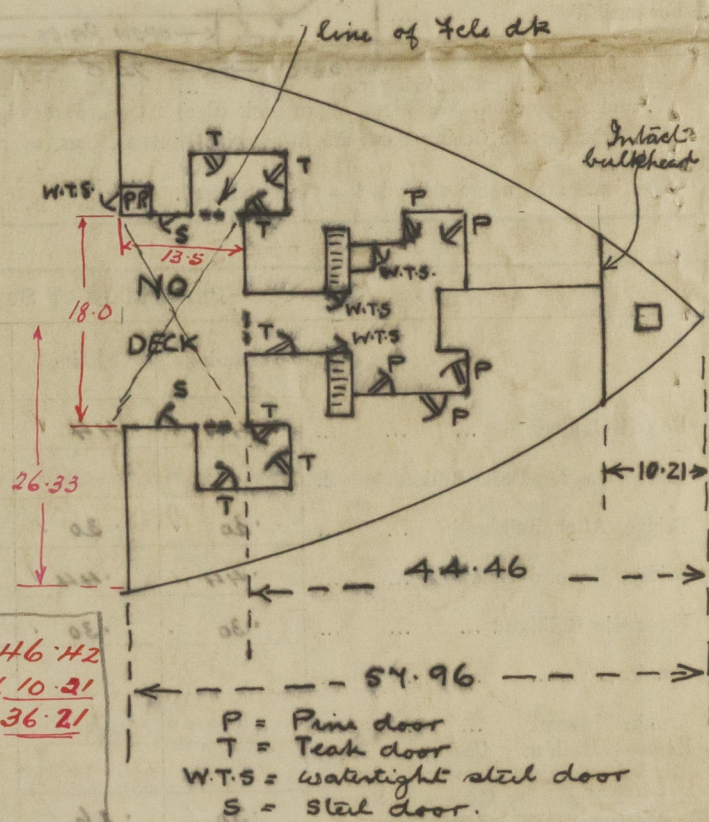
" T.P.I. " " at 27'0" B.K. = 57.87

Depth of keel = 2"

Blue Print sketch of Forecastle also attached

Forecastle

Recess $\frac{18.0 \times 13.5}{52.64} = 4.61$
54.96
53.35
Closed $\frac{10.21}{43.14} = 46.42$
closed $\frac{10.21}{36.21}$
Forecastle considered open
abaft steel bulkhead (intact) allowed $36.21 \times 998 = 36.13$
in view of fitting of
pine doors $9.93 \times 50 = 3.46$
39.59



Builder's name and yard number

Swan Hunter & Wigham Richardson Ltd. N° 1500

Names of sister ships

"British Fame" S.H.W.R. No. 1498

Owners

British Tanker Co. Ltd.

Fee £

19-0-0

Received by me



© 2020

Lloyd's Register Foundation