

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.Index. No. 22912
(For London Office only.)

19 MAR 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge & Forecastle

Port of Survey Newcastle

(Type of Superstructures.)

Date of Survey 15th & 16th March 1932

Ship's Name

TIARA

Nationality and Port of Registry
British
NewcastleOfficial Number
133529Gross Tonnage
4068Date of Build
1913-4

Name of Surveyor P. D. Broudale

Moulded Dimensions: Length 364'0" Breadth 50'4" Depth 26'8"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 9628 tons

Coefficient of fineness for use with Tables 800

Particulars of Classification 100A1

Depth for Freeboard (D)

Moulded depth ... 26'6"

Stringer plate ... 03"

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) =

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = (26'70" - 24'27") 2'80"
+ 6'8"(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) 50'4"

Standard Round of Beam = $\frac{B \times 12}{50} = 12'1"$

Ship's Round of Beam = 12"

Difference .1

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1}{4} (1 - 53\%) = 0$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	29'00"	29'00"	7'0"	1'0"	28'43"
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
Bridge enclosed ...	104'16"	104'16"	7'0"	1'0"	102'22"
" overhang aft ...	+ 1'00"	75	-	-	74
" overhang forward ...	-	-	-	-	-
Forecastle enclosed ...	32'42"	32'42"	7'0"	1'0"	31'53"
" overhang ...	+ 42"	1'92"	-	-	96
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Total ...	168'26"	168'01"	-	-	164'72"

Standard Height of Superstructure 7'14"

R.Q.D. -

Deduction for complete superstructure 39'60"

Percentage covered $\frac{S}{L} = \frac{168'26"}{364'00"} = 46'23"$ $\frac{S_1}{L} = \frac{168'01"}{364} = 46'46"$ $\frac{E}{L} = \frac{164'72"}{364} = 45'25"$ Percentage from Table, Line A. -
(corrected for absence of forecastle (if required)) -Percentage from Table, Line B. 32'46"
(corrected for absence of forecastle (if required)) -

Interpolation for bridge less than 2L (if required) -

Deduction = 32'46" x 39'60" = 12'66"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	46'40"	1	✓	46'40"	67'00"	67'00"	1	✓	67'00"
$\frac{1}{2}$ L from A.P. ...	20'65"	4	✓	82'60"	26'50"	26'46"	4	✓	105'84"
$\frac{2}{3}$ L " ...	5'10"	2	✓	10'20"	6'50"	6'61"	2	✓	13'22"
Amidships ...	-	4	✓	-	-	-	4	✓	-
$\frac{2}{3}$ L from F.P. ...	10'20"	2	✓	20'40"	11'50"	11'55"	2	✓	23'10"
$\frac{1}{2}$ L " ...	41'30"	4	✓	165'20"	46'25"	46'21"	4	✓	184'84"
F.P. ...	92'80"	1	✓	92'80"	110'00"	110'00"	1	✓	110'00"
Total ...	47'60"	✓	✓	417'60"	✓	✓	✓	✓	504'00"

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{86'4"}{18} \left(\frac{75-23'11"}{2 \times 364} \right) = -2'49"$

If limited on account of midship superstructure. -

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 26'70"

Summer freeboard = 4'83"

Moulded draught (d) = 21'87"

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5'47 5/8"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 9200$

Tons per inch immersion at summer load water line

T = 37.5

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

= 6'13 1/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{62'840}{1'36} = \frac{1'490}{1'36}$

Depth Correction ... 6'80"

Deduction for superstructures ... 12'66"

Sheer correction ... 2'49"

Round of Beam correction ... 01"

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

6'81 15'15 8'34

Summer Freeboard = 58'04"

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

Tropical Fresh Water Line above Centre of Disc ... 13 1/4"

Fresh Water Line " " ... 6 1/4"

Tropical Line " " ... 5 1/2"

Winter Line below " " ... 5 1/2"

Winter North Atlantic Line " " ... -

Tropical Fresh Water Freeboard ... 3'10 1/4"

Fresh Water " " ... 4'33 1/4"

Tropical " " ... 4'4 1/2"

Winter " " ... 5'3 1/2"

Winter North Atlantic " " ... -

011280-011293-0086 1/2

Rpt. 11b

Particulars of fiddle, funnel and ventilator coamings:—
Fiddle gratings are fitted with hinged steel covers. ✓
E. R. skylight is steel. ✓
Fiddle, funnel ventilators are good. ✓

None

None.

Ventilators are in accordance
with Rule requirements.
Closing - wood plugs & canvas
covers.

Joyle decks:- 1.M.1 @ $3\frac{1}{2}$ dia o/c @ $1\frac{1}{2}$ dia. led to fore peak. Height 6" to north -
 Bridge deck:- 2.M.1 @ $1\frac{1}{2}$ " " led to D.B. tanks. " 5" " -
 Poop deck:- 1.M.1 @ 3" " " aft peak. " 6" " -
 Weels:- Air pipes flush with decks & fitted with brass screw caps.

None

Li

And Sanitary Discharge Pipes

PARTIAL
TOP

charges lead & M.I. storm valves fitted.
upper P.O.S. from bridge space fitted with flap valve.

ars of Side Scuttles:

Hinged dead-lights fitted in fore space.

Cert. LL S

Particulars of Guard Rails :—

Pool-bridge & lock decks :- 3 tier rails 3'3" in height. Stanchions spaced 4'8" /
Well decks :- Bulwarks 4'2" in height. Stanchions 7"x38" B.P. spaced 5'3" apart.

Particulars of Gangways, Lifelines, etc. :—

St. Maurella lifelines fitted on port & Starboard
sides in both wells.

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	104.16'	4' 2"	3'00" X 1.75'	4	21 ϕ	20.8 ϕ
Forward Well	89.58'	4' 2"	3'00" X 1.75'	4	21 ϕ	17.8 ϕ

State position of each freeing port } After Well: — 11'0" — 31'0" — 55'3.9" 82'6" from bridge end.
 (F. and A. position and height above deck edge) } Forward Well: — 17'0" — 39'9" — 60'0" 78'0" fore end. } 13" above decks.

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: —

Additional area where sheer is less than standard.

Bar hinge

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	—	38"	6" flange 5x3x40 act	30"	None	Two. 4'6"x36"	19"	
Raised Quarter Deck Bulkhead ...	—							
Bridge, After Bulkhead	—	36"	4"x3"x40"	33"	None	Two. 4'6"x36"	19"	
Bridge, Forward Bulkhead	—	40"	8"x3½"x62BA	30"	Brackets	Two. 4'9"x42"	18"	
Forecastle Bulkhead	—	26"	3" flange	33"	None	Three 4'9"x33"	19"	
Trunk, Aft	—							
Trunk, Forward	—							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	—							
Exposed Machinery Casings on Super-structure Decks	36"	28"	3½"x3"x38"	36"	Brackets at top	Three 4'6"x24"	20"	6'9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	36"	30"	3½"x3"x38"	36"	—	1 @ 4'6"x24" 1 @ 4'0"x72" 2 @ 2'0"x24"	18" 21" 36"	
Deckhouses on Flush Deck Ships ...								

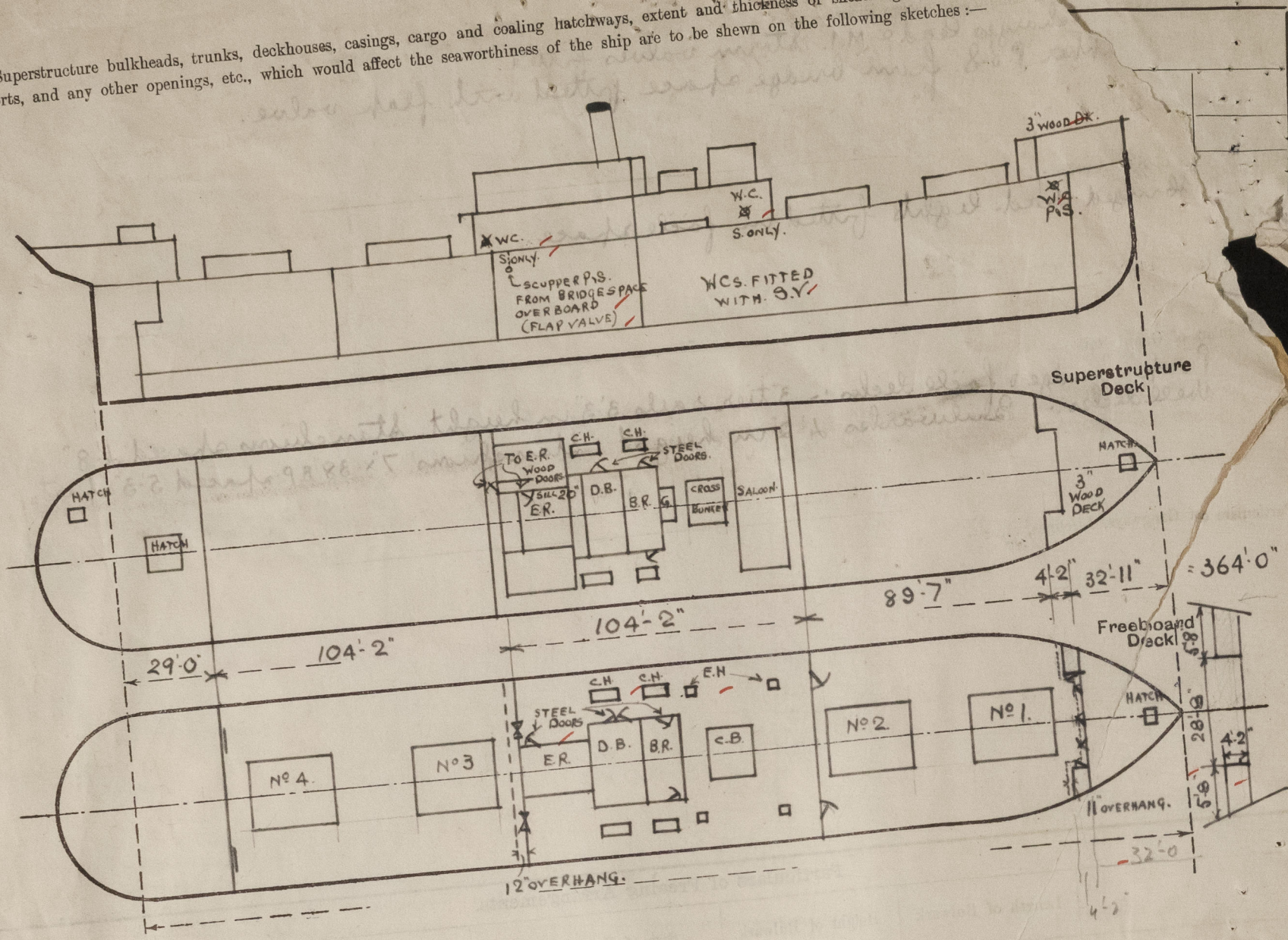
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	Steel plates with hook bolts (not thro' bulkhead plating) operating outside only. ✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	Tree height riveted channels & 3" weather boards. ✓
Bridge, Forward Bulkhead	Hinged steel doors - operating outside only. ✓
Forecastle Bulkhead	Hinged solid 1 1/2" teak doors operating both sides. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	Hinged steel doors operating both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel doors operating both sides. ✓
Ships	✓

Diagram: A cross-section of a ship's hull showing a door (DOOR) and a bulkhead (BULKHEAD) spaced 29".

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



Equivalent Δ at full.

$$\frac{5.67 + 4.16}{20.00} = 1.68 \checkmark$$

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

No Timber Assignment required.

Δ at .85 Mld draft

Form 307 Lm

$$\frac{8460 + 357 + .995 \times 1.804}{364 + 50.41 + 20} = .804$$

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Builder's name and yard number

Lunduland S. B. Co. Ltd

Names of sister ships

Hall Bros. S. S. Co. Ltd. (Hall Bros. Mgrs.)

Owners

Fee £ 12 : 15 : 0

Received by me



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