

Correction = $\frac{\text{Difference between sums of products}}{18}$

$(.75 - \frac{S}{2L}) = \frac{.75 - .5}{18} = \frac{.25}{18} = \frac{1}{72}$

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Ft.
Depth to Freeboard Deck = 29.04.
Summer freeboard = 3.35.
Moulded draught (d) = 25.69.
Keel allowance =
Extreme draught =

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.42 = 6 $\frac{1}{2}$ "

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 11858$.

Tons per inch immersion at summer load water line

T = 43.

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

= 6.90.

= 7"

TABULAR FREEBOARD ~~corrected for Flush Deck (if required)~~

Correction for coefficient

71.5 + 1.44 $\frac{1.36}{1.36}$

Depth Correction
Deduction for superstructures
Sheer correction
Round of Beam correction
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

+	-
7.11.	✓
✓	41.52.
✓	1.31.
✓	✓
✓	✓
✓	✓
7.11.	42.83

71.50.
75.97.

24.8.52

+35.72.

Summer Freeboard = 40.25

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~W~~ Steel, Deck :—

Tropical Fresh Water Line above Centre of Disc ... 13 $\frac{1}{2}$ "
Fresh Water Line " " ... 7"
Tropical Line " " ... 6 $\frac{1}{2}$ "
Winter Line below " " ... 6 $\frac{1}{2}$ "
Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard 3'-4 $\frac{1}{4}$ "
Fresh Water 2'-2 $\frac{3}{4}$ "
Tropical 2'-9 $\frac{1}{4}$ "
Winter 2'-9 $\frac{3}{4}$ "
Winter North Atlantic 3'-10 $\frac{1}{4}$ "

2020

Lloyd's Register Foundation

2m.7.50. T.

RECEIVED MAR 3

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having

COMPLETE SUPERSTRUCTURE

WITH TONNAGE OPENING

Port of Survey New YorkDate of Survey 10 August 1932na. Starhall.

(Type of Superstructures.)

Name of Surveyor John S. Heck

Ship's Name

Nationality and Port of

Registry

Official Number

Gross Tonnage

Date of Build

RABY CASTLE

BRITISH.

LIVER POOL

147306

4996

1925-

Moulded Dimensions: Length

400

Breadth

29' upper

37' 1 1/2 Skelton

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

11265

tons

Coefficient of fineness for use with Tables

.765

Particulars of Classification +100 A1 SkeltonDk with freeboard

Depth for Freeboard (D)

Moulded depth 29'-0"Stringer plate 75"

Sheathing on exposed deck

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

Depth for Freeboard (D) =

29'-0 1/4"

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

$$(29'-0 - 26'-6) 3 = 72 +$$

(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) 52'-5"52'-2 1/2"Standard Round of Beam = $\frac{B \times 12}{50}$ =12'-6"

Ship's Round of Beam =

13'-3 1/4"

Difference

+1'-5"

Restricted to

1'-2 1/4"Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ 4 (1 - .9909)NIL

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>31'-00"</u>	<u>31'-00"</u>			
" overhang ...	<u>6'-25"</u>	<u>3'-12"</u>	8		<u>31'-00"</u>
R.Q.D. enclosed ...					<u>3'-12"</u>
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...	<u>358'-0"</u>	<u>358'-0"</u>			
W'le enclosed ...	<u>357'-25"</u>	<u>357'-25"</u>	8		<u>358'-0"</u>
" overhang ...	<u>75"</u>	<u>37'</u>			<u>56"</u>
Trunk aft ...		<u>56"</u>			
" forward ...					
Tonnage opening aft ...	<u>4'</u>	<u>3'-66"</u>	8		<u>3'-66"</u>
" forward ...		<u>396'-34"</u>			
Total ...	<u>400'</u>	<u>392'-5"</u>			<u>396'-34"</u>

Standard Height of Superstructure 7'-50"

" " R.Q.D.

Deduction for complete superstructure 42'-0 1/2"Percentage covered $\frac{S}{L} = 100\%$ " " $\frac{S_1}{L} = \frac{392'-5}{400} = 98.125\%$ " " $\frac{E}{L} = \frac{396'-34}{400} = 99.085\%$ " " $\frac{E}{L} = 99.09$ Percentage from Table, Line A. 98.84

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 98.84

(corrected for absence of forecastle (if required))

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

Deduction = $42 \times 98.84 = 41.52$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>50</u>	1		<u>50</u>	<u>49'-5"</u>	<u>55'-50"</u>	1		<u>55'-50"</u>
1/8 L from A.P. ...	<u>22'-25"</u>	4		<u>89</u>	<u>21'-33"</u>	<u>24'-70"</u>	4		<u>98'-80"</u>
1/4 L " ...	<u>5'-5"</u>	2		<u>11</u>	<u>5'-33"</u>	<u>6'-11"</u>	2		<u>12'-22"</u>
Amidships ...		4			<u>0</u>		4		
3/8 L from F.P. ...	<u>11'-0"</u>	2		<u>22</u>	<u>13'-1"</u>	<u>13'-86"</u>	2		<u>27'-72"</u>
1/2 L " ...	<u>44'-5"</u>	4		<u>178</u>	<u>52'-53"</u>	<u>56'-07"</u>	4		<u>224'-28"</u>
F.P. ...	<u>100</u>	1		<u>100</u>	<u>120'-0"</u>	<u>126'-0"</u>	1		<u>126'-00"</u>
Total ...				<u>450</u>	<u>+6"</u>	<u>544'-52"</u>			<u>501'-68"</u>

Correction = $\frac{\text{Difference between sums of products}}{18}$

$$\left(75 - \frac{S}{2L} \right) = \frac{94'-52 - 51'-68}{18} = \frac{42'-84}{18} = 2'-36"$$

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 = 29'-04"Summer freeboard = 3'-41"Moulded draught (d) = 25'-59"

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6'-39"

Addition for Winter North Atlantic Freeboard (if

required = N. R.

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11730$

Tons per inch immersion at summer load water line

 $T = 43$ Deduction = $\frac{\Delta}{40T}$ inches $= \frac{11730}{40 \times 43} = 6.90$ $= 6'-82"$ $40 \times 43 = 1720$ $1720 \div 250 = 6.88$ $6'-84"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $71.5 \times \frac{1.445}{1.36}$ Depth Correction 7'-2"Deduction for superstructures 7'-11"Sheer correction 41'-52"Round of Beam correction 71'Correction for Thickness of Deck amidships 1'-31"Other corrections, scantlings, etc. 7'-11"Summer J 7'-2"SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, DeckTropical Fresh Water Line above Centre of Disc ... 13'-4 1/2"Fresh Water Line " " ... 6'-34 1/2"Tropical Line " " ... 6'-2 1/2"Winter Line below " " ... 6'-2 1/2"Winter North Atlantic Line " " ... 6'-2 1/2"Tropical Fresh Water Freeboard ... 3'-4 1/2"Fresh Water " " ... 2'-2 1/2"Tropical " " ... 2'-9"Winter " " ... 2'-6"Winter North Atlantic " " ... 3'-0"

MARKING FORM

RECEIVED

24 JAN 1934

MAR

RECE

2020

Lloyd's Register

Education

002808-002815-0087

002808-002815-0088

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS SHELTER									
Description of Hatchway	No 1, 2+4	No 3+5	T.O.	1	2	3	4	5	
Dimensions of Hatchway	33'x18'	22'x18'	4'x18'	33'x18'	33'x18'	22'x18'	33'x18'	22'x18'	
COAMINGS	Height above Deck	30	30	12	9	9	9	9	
	Thickness	44	44	44	4	4	4	4	
	Stiffeners	7" B&A	7" B&A						
	Brackets, Stays	none	none						
HATCH BEAMS	Number	5	3	none	5	5	5	3	
	Spacing	5'-6"			5'-6"	5	NOTE	5	
	Scantling and Sketch	I 18x7x7x 9/16	I 18x7x7x 9/16	none	5'-6"	do	do	do	
	Bearing Surface	3"	3"	3"	1/2+3 1/2	do	do	do	
FORE AND AFTERS	Number	none	none	none					
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
HATCH COVERS	Material	wood	wood	wood	O.P.				
	Thickness	3"	3"	3"	2 3/4	do	do	do	
	How fitted	Fore + aft	for all		7/16				
	Bearing Surface	3"	3"	3"	4"				
Spacing of Cleats	18"	18"	✓	24"	do	do	do	do	
Number of Tarpaulins	3	3	3	2					

*Are wood fore and afters steel shod at all bearing surfaces? ☒ yes
 Are battens and wedges efficient and in good condition? ☒ yes
 Are tarpaulins in good condition and in accordance with rule requirements? ☒ yes
 Are lashings provided in accordance with rule requirements? ☒ yes.

also:- 20 trumming latches (2 in T.O.) 33'x30' coamings 9"x4". Placed wood covers 2 3/4" thick, cleats, battens bearing surface tarpaulins to Rule. Requirements

Particulars of fiddle, funnel and ventilator coamings:- Fiddle, Funnel + Ventilator Coamings for Machinery Space in top of Midship House about 8' above Shelter Deck. Engine Room skylight (not a vessel no fiddle) strongly constructed with strong steel covers permanently attached.

Particulars of Flush Bunker Scuttles:- none

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

16-24" Vents Coamings 30" high x 1 1/4" thick
 21 Ventilators ranging from 6" to 18" dia with coamings 24" high thickness sufficient as per Rules
 Efficient Closing Appliances provided

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

24" high Strong Steel Pipes with non return balls.
 Fee £

Cargo and Coaling Ports:-

none

Particulars of Scuppers and Sanitary Discharge Pipes:-

none, below Superstructure deck.

Particulars of Side Scuttles:-

28 P+S in Shelter Deck Shearstrake
 All fitted with Permanent Deadlights

Particulars of Guard Rails:-

Bulwarks amidships alt 170' 3'-6" high
 Fore + aft Open rails 4' high 3'-6"

Particulars of Gangways, Lifelines, etc.:-

Grab Rails on Sides of Houses
 Life lines will be fitted as required.

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 MIDSHIP.	120	3'-6"	1 Freeing Port 2'-6"x1'-6" 1 Fair lead 18"x10"	1		
Forward Well						

State position of each freeing port ... After Well:-
 (F. and A. position and height above deck edge) Forward Well:-
 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.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

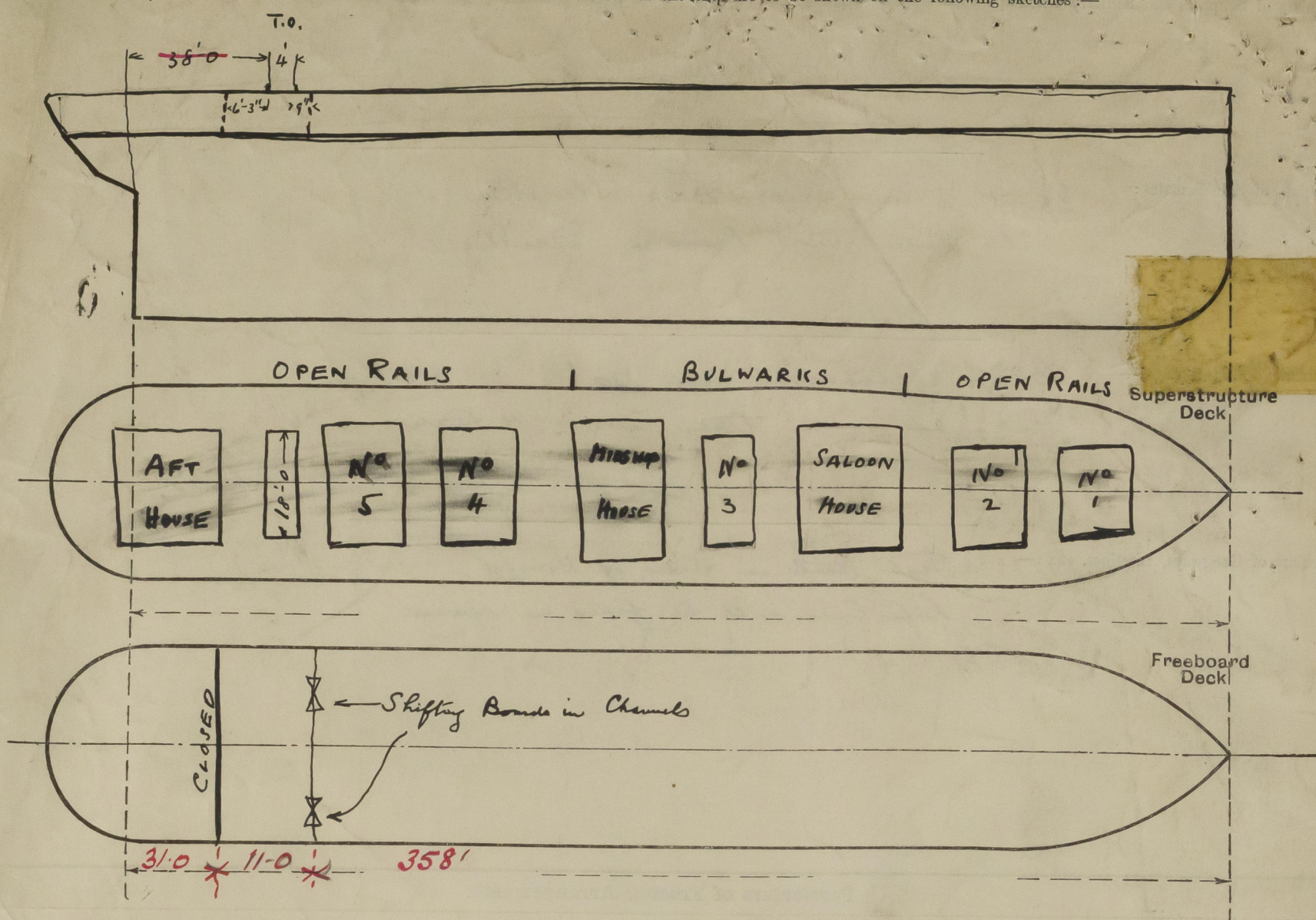
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	1/4	1/4	3 1/2 x 3 1/2 x 3/8	30		none	-	-
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	1/4	1/4	3 1/2 x 3 1/2 x 3/8	30		4'-0" x 4'-6"	21"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances						Not exposed. Protection by strong steel Midship House.		
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	Closed
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

Shifting Boards in ^{low} Channels. full height.

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:—



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

Builder's name and yard number

Caledon S. B. + E. Co. 290

Names of sister ships

Owners

Lancashire Shipping Co. Ltd.

Fee £

\$70⁰⁰

Received by me

[Signature]

Expenses 2⁵⁰



© 2020

Lloyd's Register
Foundation