

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

19265

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Continuous Superstructure deck, with tonnage opening*Port of Survey *Leith**JINSAN*

(Type of Superstructures.)

Date of Survey *While building*Name of Surveyor *Ernest Edwards*Particulars of Classification *+100A.1.*  
*" WITH FREEBOARD "*

Ship's Name *" MULUBINBA "* Nationality and Port of Registry *(not yet stated) KUCHING SARAWAK* Official Number *128799* Gross Tonnage *1100* Date of Build *1937*

Moulded Dimensions: Length *220.0* Breadth *39.0* Depth *16.0 at 2nd Deck*  
(*24.0 at Upper Deck*)  
Moulded displacement at moulded draught = 85 per cent. of moulded depth *2230* tons  
Coefficient of fineness for use with Tables *✓ 669 (68 lowest in table)*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	... 16.0	(a) Where D is greater than Table depth (D - Table depth) R = (16.03 - 14.64) 1.392 = + 2.30"		Moulded Breadth (B)	= 39.0
Stringer plate	... .03			Standard Round of Beam = $\frac{B \times 12}{50}$	= 9.36"
Sheathing on exposed deck	none	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	= 9.14"
T $\left(\frac{L-S}{L}\right) =$		If restricted by superstructures	✓	Difference	= .39"
Depth for Freeboard (D) =	16.03			Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right)$	= $\frac{.39^2}{4} \times .0102 = \text{NIL}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	75.50	75.50	8.0	✓	75.50
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	140.00	140.00	8.0	✓	140.00
" overhang aft ...					
" overhang forward					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	4.50	2.25	diff x 1/2		2.25
" " forward					
Total ...	220.00	217.75			217.75

Standard Height of Superstructure 6.00'

" " R.Q.D. ✓

Deduction for complete superstructure 28.00"

Percentage covered  $\frac{S}{L} = 100.00$

" "  $\frac{S_1}{L} = 98.98$

" "  $\frac{E}{L} = 98.98$

Percentage from Table, Line A. 98.75

(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 = 28.00 x .9875 = 27.65"

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	32.00	1		32.00	36"	60.00	1		60.00
1/8 L from A.P. ...	14.24	4		56.96	15 1/4"	26.70	4		106.80
2/8 L " ...	3.52	2		7.04	4"	6.60	2		13.20
Amidships ...	-	4		-	-	-	4		-
3/8 L from F.P. ...	7.04	2		14.08	6 3/4"	9.24	2		18.48
1/2 L " ...	28.48	4		113.92	26 1/2"	34.38	4		149.52
F.P. ...	64.00	1		64.00	60"	84.00	1		84.00
Total ...				288.00	+ 24"				432.00

Mean actual sheer aft = *Excess*

Mean standard sheer aft = *Excess*

Mean actual sheer forward = *Excess*

Mean standard sheer forward = *Excess*

Length of enclosed superstructure forward of amidships = } b.s.l.

" " aft of " = }

Correction =  $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L}\right) = \frac{144}{18} (.75 - .50) = -2.0"$

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 = 16.03'

Summer freeboard = .17'

Moulded draught (d) = 15.86'

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 3.96 = 4"

Addition for Winter North Atlantic Freeboard (if required) = 4" + 2" = 6"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line at 15.10 mtd.

 $\Delta = 2680$  2686 15.86

Tons per inch immersion at summer load water line

T = 16

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

= 4.20 = 4 1/4"

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

Correction for coefficient ✓

	+	-
Depth Correction	2.30	-
Deduction for superstructures	-	27.65
Sheer correction	-	2.00
Round of Beam correction	-	-
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	2.30	29.65

Summer Freeboard = - .75'

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:— 0' 2" (limited).

Tropical Fresh Water Line above Centre of Disc	... 4 1/4"	Tropical Fresh Water Freeboard	... MINUS 0' 2 1/4"
Fresh Water Line	" " ... 4 1/4"	Fresh Water	" MINUS 0' 2 1/4"
Tropical Line	" " ... NIL	Tropical	" ... 0' 2" (limited)
Winter Line below	" " ... 4"	Winter	" ... 0' 6"
Winter North Atlantic Line	" " ... 6"	Winter North Atlantic	" ... 0' 8"

16 FEB 1937



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
		On <i>Upper Deck</i>		On <i>2<sup>nd</sup> Deck</i>		On <i>Eng. Caming</i>		On <i>2<sup>nd</sup> Deck</i>	
Description of Hatchway		N <sup>o</sup> 1	N <sup>o</sup> 2	N <sup>o</sup> 1	N <sup>o</sup> 2	Coal Hatch		sugar cargo hatch	
Dimensions of Hatchway		40 x 14	30 x 14	40 x 14	30 x 14	16" x 11 1/2"	6"	16" x 23"	
COAMINGS	Height above Deck	30"		9 x 3 1/2 x 44"		14" x 11"		9 x 3 1/2 x 44"	
	Thickness Sides	4 1/4"		"		22"		"	
	Thickness Ends	4 1/4"		"		35"		"	
	Stiffeners	7 x 3 x 35"		none		35"		"	
	Brackets, Stays	8 and 10"				none		none	
HATCH BEAMS	Number	5		5					
	Spacing	5'		5'					
	Scantling and Sketch	12 x 32		12 x 32					
	Bearing Surface	3 x 3 x 42"		3 x 3 x 42"					
FORE AND AFTERS	Number	none		none					
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	WP 3"		WP 3"		WP 2 1/2"		WP 3"	
	Thickness	4 x 9 x 42"		4 x 9 x 42"		4 x 9 x 42"		4 x 9 x 42"	
	How fitted	3"		3"		2 1/2"		2 1/2"	
	Bearing Surface								
Spacing of Cleats		24"		24"		24"		Two each side.	
Number of Tarpaulins		Two		One		Two		One	

\*Are wood fore and afters steel shod at all bearing surfaces? none  
 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, on each side of N<sup>o</sup> 1 Hatchway four eye plates, N<sup>o</sup> 2 " three " " "

Particulars of fiddley, funnel and ventilator coamings:— (~~not yet completed~~)

Sidley openings are provided with strong steel covers permanently attached. Sidley Casings 18" 6 in height Vent coaming 3-6 above the jacket. Tunnel Coaming 3x3x405

Particulars of Flush Bunker Scuttles:—

none ✓

Particulars of Companionways :—

none ✓

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

Forward to store :- 6" clear x 34" x 36" above deck ✓  
 To No 1 Hold :- two @ 17" clear x 40 x 36" above deck ✓  
 To No 2 Hold :- two Sampson bars, 16" clear, x 22" 6" above deck, supported by strops ✓  
 " " :- two @ 17" clear x 40 x 30" above deck ✓  
 To accommodation aft :- four @ 9" clear, four @ 6" clear, 30" above deck ✓  
 " " :- four nich ventilators 4" clear x 30" above deck ✓  
 " " :- one @ 12" clear 36" above deck ✓  
 Particulars of Air Pipes :-

all coornings, and  
saw, necth Ventilators  
are supplied with wood  
plugs & canvas covers.  
The Sampson ports are fitted  
with permanent plate washers,  
mushroom type. ✓

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

To fore peak tank:- one 3" dia  $\times$  30" above deck (protected by bulwark)  
To deck tank forward:- " 4" "  $\times$  30" " " "  
To Port Side and Starboard Side Fin Tanks:- one 3" dia  $\times$  18" above decks!  
To " " " " Feed W Tanks:- " " " " " "  
To after peak tank:- one 3" dia  $\times$  18" above deck.!

✓ all an fishes are provided  
with wood plugs, and  
have snifting holes. ✓

Particulars of Gangway Cargo and Coaling Ports :—

On each side of keel there are two openings in shell between upper & 2<sup>nd</sup> decks each 6'-6" x 7'-0", closed with double steel hinged doors 4'5" having 4x3x4.5" frames, fitted watertight on rubber joint, and secured at centre of opening by three bolts in conjunction with strong chains 4" x 1 1/2", and side of openings three clips (note:- three bolts & three clips at each single door) ✓

The small fluting in way of spinning is fitted with doubling plates.

SS" MULUBINBA" 19 FEB 1967 35178  
LATE RPT NO 19265

Particulars of Scupperns and Sanitary Discharge Pipes:— From Upper D<sup>ts</sup>:— Six 4" clear scupperns each side, do not pass through 2nd D<sup>t</sup>.  
From Bridge Accom<sup>d</sup>:— Two W.C. soils & 4" clear, pass through upper 2nd D<sup>ts</sup>, & have storm valves at shell openings.  
"— " — " Basin discharges, 3" clear, (Two off), pass through upper 2nd D<sup>ts</sup>?  
From 2nd D<sup>t</sup>:— (draining lower D<sup>t</sup> space) One 5" clear non-return scupper down (each side,) controlled from above  
Upper D<sup>t</sup>. (same as fitted in Tonnage space)  
From Accom<sup>d</sup> aft, on 2nd D<sup>t</sup>:— Seven 2" clear & two 1 1/2" clear scupperns pass through 2nd D<sup>t</sup>. Have storm valves at  
shell openings, also non-detachable crew plugs at inboard ends.  
"— " — " — " — " Three W.C. soils, 4" clear, pass through 2nd D<sup>t</sup> & have storm valves at shell  
openings. The inboard end of one of these is above the Upper D<sup>t</sup>. The remaining  
two are below Upper D<sup>t</sup>, & are fitted with balanced non-return valves at  
inboard ends.

Particulars of Side Scuttles:

A way of accommodation apt:- Pinetown @ 14" dia, 7 min @ 12" dia } are fitted  
In way of Foeli:- four @ 12" dia. } with metal  
adapters.

Particulars of Guard Rails :—

Solid plate and angle bulwark, - 4'-0" high, for 34' aft of stem, & for 28' ahead of midship house, and for 58' forward & after perpendicular.  
Everywhere open rails 4'-0" high, 4 rods, stanchions 4'-0" apart.

Particulars of Gangways, Lifelines, etc. :—

none -

## 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 ... .. { After Well:—</p> <p>(F. and A. position and height above deck edge) { Forward Well:—</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>						

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

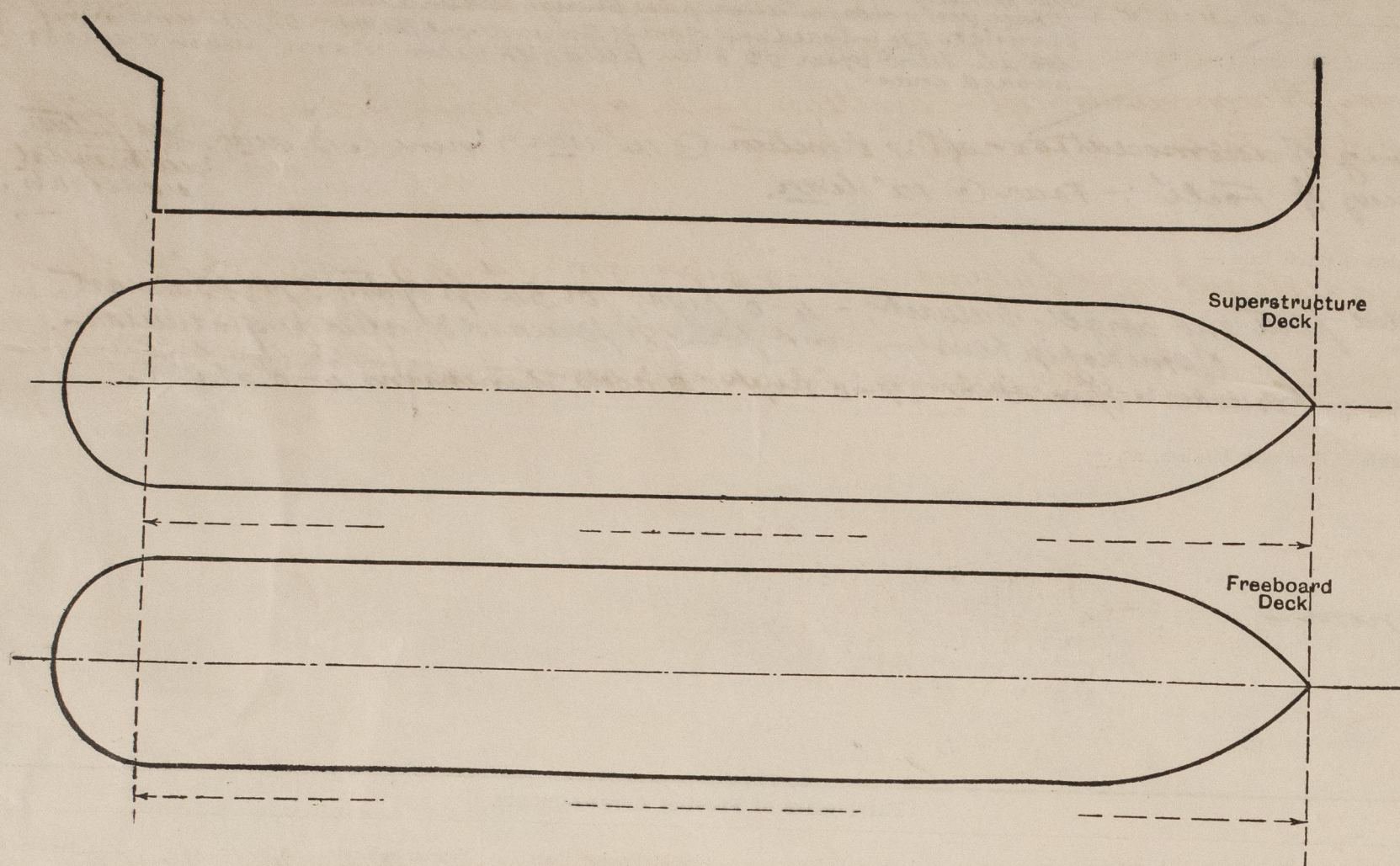
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
<i>Tonnage opening</i> Poop Bulkhead ... ..	.38	.30	6" x 3" x .36 L	28	connect with top & bottom L's	none	✓	8'-0"
Raised Quarter Deck Bulkhead ...								
<i>Tonnage opening</i> Bridge, After Bulkhead ... ..	.26	.26	6" x 3" x .40 at girders 4" x 3" x .30 at openings 3" flanged clamps		= bractnails connect with top & bottom L's	4'-1" x 3'-1"	24"	8'-0"
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..								
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	Pair .38	.30	6" x 3" x .35 L	24	connect with top & bottom	5'-3" x 2'-0"	18"	11'-6"
Exposed Machinery Casings on Super- structure Decks ... ..	Angum .30	.26	3" x 3" x .26 L	30	angles	5'-3" x 2'-1 1/2"	18"	7'-9"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	.38	.26	3" x 2 1/2" x 3	30	connect with top & bottom L's	none	✓	8'-0"
Deckhouses on Flush Deck Ships ...	✓							

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

Poop Bulkhead	...	...	...	<i>none No openings</i>
Raised Quarter Deck Bulkhead	...	✓		
Bridge, After Bulkhead	...	...	...	<i>26 plate secured by 3/4" bolts (room bolts) spaced 12" apart, can be manipulated from after side of bulkhead.</i>
Bridge, Forward Bulkhead	...	...		
Forecastle Bulkhead	...	...	...	
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	✓		
Exposed Machinery Casings on Super-structure Decks	...	...	...	<i>Steel doors can be manipulated from both sides.</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	<i>none.</i>
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 shown on the following sketches:—



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

Builder's name and yard number

Names of sister ships

Owners

Fee £

Received by me

Mulubinba

Particulars of Scuppers and Sanitary Discharge Pipes:—

From Upper D<sup>o</sup>:— Six 4" dia. scuppers, each well, do not pass through 2<sup>nd</sup> deck.

From accommodation on 2<sup>nd</sup> D<sup>o</sup>:— Six 2" dia. & two 1 1/2" dia. scuppers, pass through 2<sup>nd</sup> D<sup>o</sup> & have storm valves at shell.

From Bridge accommodation:— Two W.C. noils 4" dia. pass through 2<sup>nd</sup> D<sup>o</sup> & have storm valves at shell (windward openings).

From accommodation aft:— Three W.C. noils 4" dia. pass through 2<sup>nd</sup> D<sup>o</sup> & have storm valves at shell (windward openings).

On each side, 1-5" diameter non return valve from sampled lower deck space. Values discharging overboard above second deck.

Particulars of Side Scuttles:— and fitted with screw down control, operated from above the upper deck.

In way of accommodation aft:— Nineteen @ 14" dia. & nine @ 12" dia. are fitted with metal quadrants.

In way of Fore:— Four @ 12" dia.

Particulars of Guard Rails:—

Solid plate and angle bulwark - 4'-0" high, for 3 1/4' aft of stem, & for 28' ahead of midship point, and for 58' forward of after perpendicular.

Particulars of Gangways, Lifelines, etc.:—

none

#### Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
In way of Tonnage Opening space, on each side, One 5" dia. non return valve, screw down type, controlled from above upper D <sup>o</sup> .						
After Well ...						
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.

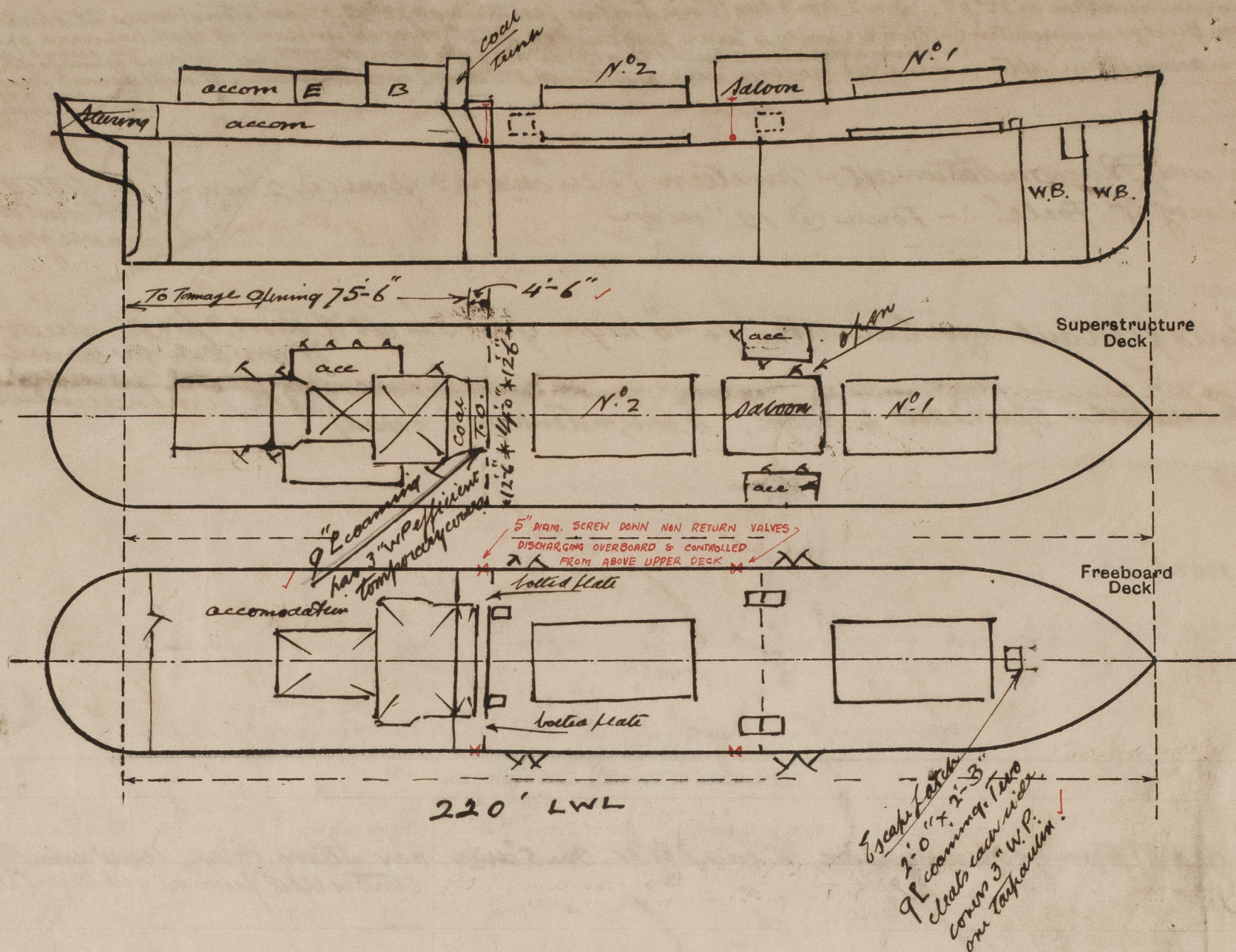
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead <i>Tonnage opening</i>	38	30	6 x 3 x 36	28	connected with top & bottom L's	none	✓	8'-0"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead <i>Tonnage opening</i>	26	26	6 x 3 x 40	24	connected with top & bottom L's	4'-1" x 3'-1"	24	8'-0"
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	38	30	6 x 3 x 35	24	connected with top & bottom L's	5'-3" x 2'-0"	18"	11'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	38	26	3 x 3 x 26	30	connected with top & bottom L's	5'-3" x 2'-1 1/2"	18"	7'-9"
Deckhouses on Flush Deck Ships	✓							

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

Poop Bulkhead	none	No openings
Raised Quarter Deck Bulkhead	✓	hook bolts
Bridge, After Bulkhead	26 plate secured by 1/4" bolts spaced 12" apart, can be manipulated from the after side of 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	none	
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:—



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

The following plans are forwarded herewith:—  
 midship section, Profile & Decks, Watertight Shell doors -  
 Cargo hatches, Plan of Watertight doors & shell doublers as built.  
 General arrangement as built - Pillars & Girders.

Builder's name and yard number *Henry Robt L<sup>d</sup> N° 234*

Names of sister ships *none*

Owners *Newcastle & Hunter River I.S. Co*

*Australia*

Fee £ *10 0 0*

Received by me

(To be charged with F.E. fees.)



© 2021

Lloyd's Register  
Foundation