

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having TWO DECKS (STEEL - UPPER WOOD SHEATHED) - THIRD DECK IN FORE HEAD  
AND BRIDGE AND FORECASTLE  
(Type of Superstructures.)

Port of Survey SYDNEY N.S.W.

Date of Survey 5/10/35

Name of Surveyor J. A. C. Smith

Particulars of Classification +100A1  
S.S. S.I.O. 2nd H.S. - 10.34.

Ship's Name MONTORO Nationality and Port of Registry BRITISH SINGAPORE Official Number 131499 Gross Tonnage 4088 Date of Build 1911-12

Moulded Dimensions: Length 359.5 Breadth 47.0 Depth 26.5

Moulded displacement at moulded draught = 85 per cent. of moulded depth 8082 (estimated) tons

Coefficient of fineness for use with Tables .75

Depth for Freeboard (D)

Moulded depth ... 26.25

Stringer plate ... .03

Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) = \frac{3.5 \times 2292}{12} = .07$

Depth for Freeboard (D) = 26.35

Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  $(26.35 - 23.97) 2.766 = + 6.58$

(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) 47.00

Standard Round of Beam =  $\frac{B \times 12}{50} = 11.28$

Ship's Round of Beam = 11.75

Difference Excess .47

Restricted to

Correction =  $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.47^2}{4} \times .7775 = -.03$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>36.94</u>	<u>36.94</u>	<u>8.25</u>	<u>✓</u>	<u>36.94</u>
„ overhang ...	<u>6.81</u>	<u>3.40</u>	<u>8.25</u>	<u>✓</u>	<u>3.40</u>
R.Q.D. enclosed ...	<u>160.51</u>	<u>160.51</u>	<u>8.25</u>	<u>✓</u>	<u>160.51</u>
„ overhang ...	<u>1.66</u>	<u>1.24</u>	<u>8.25</u>	<u>✓</u>	<u>1.24</u>
„ overhang forward ...	<u>1.83</u>	<u>.91</u>	<u>8.25</u>	<u>✓</u>	<u>.91</u>
„ overhang aft ...	<u>44.23</u>	<u>44.23</u>	<u>8.25</u>	<u>✓</u>	<u>44.23</u>
„ overhang ...	<u>3.52</u>	<u>1.76</u>	<u>8.25</u>	<u>✓</u>	<u>1.76</u>
Trunk aft ...	<u>21.66</u>	<u>10.83</u>	<u>8.25</u>	<u>✓</u>	<u>10.83</u>
Tonnage opening aft ...					
„ forward ...					
Total ...	<u>277.16</u>	<u>259.82</u>			<u>259.82</u>

Standard Height of Superstructure 7.096

„ „ R.Q.D. ✓

Deduction for complete superstructure 39.31

Percentage covered  $\frac{S}{L} = 77.08$

„ „  $\frac{S_1}{L} = 72.25$

„ „  $\frac{E}{L} = 72.25$

Percentage from Table, Line A. ✓  
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 65.77  
(corrected for absence of forecastle (if required))

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

Deduction =  $39.31 \times .6577 = - 25.85$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>45.96</u>	<u>1</u>	<u>✓</u>	<u>45.96</u>	<u>51.00</u>	<u>51.00</u>	<u>1</u>	<u>✓</u>	<u>51.00</u>
$\frac{1}{2}$ L from A.P. ...	<u>20.45</u>	<u>4</u>	<u>✓</u>	<u>81.80</u>	<u>22.50</u>	<u>22.50</u>	<u>4</u>	<u>✓</u>	<u>90.00</u>
$\frac{1}{4}$ L „ ...	<u>5.055</u>	<u>2</u>	<u>✓</u>	<u>10.11</u>	<u>5.50</u>	<u>5.50</u>	<u>2</u>	<u>✓</u>	<u>11.00</u>
Amidships ...	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>
$\frac{3}{4}$ L from F.P. ...	<u>10.11</u>	<u>2</u>	<u>✓</u>	<u>20.22</u>	<u>10.50</u>	<u>10.50</u>	<u>2</u>	<u>✓</u>	<u>21.00</u>
$\frac{1}{2}$ L „ ...	<u>40.90</u>	<u>4</u>	<u>✓</u>	<u>163.60</u>	<u>42.75</u>	<u>42.75</u>	<u>4</u>	<u>✓</u>	<u>171.00</u>
F.P. ...	<u>91.92</u>	<u>1</u>	<u>✓</u>	<u>91.92</u>	<u>96.00</u>	<u>96.00</u>	<u>1</u>	<u>✓</u>	<u>96.00</u>
Total ...	<u>413.61</u>			<u>413.61</u>					<u>440.00</u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{26.39}{18} (.75 - .3854) = -.53$

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.

Depth to Freeboard Deck = 26.28

Summer freeboard = 3.48

Moulded draught (d) = 22.80

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches =  $5.70 = 5\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction =  $\frac{\Delta}{40T}$  inches5 $\frac{3}{4}$ 

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>6.58</u>	<u>-</u>
Deduction for superstructures ...	<u>-</u>	<u>25.85</u>
Sheer correction ...	<u>-</u>	<u>.53</u>
Round of Beam correction ...	<u>-</u>	<u>.03</u>
Correction for Thickness of Deck amidships ...	<u>-</u>	<u>.84</u>
Other corrections, scantlings, etc. ...	<u>-</u>	<u>-</u>

6.58 27.25 - 20.67Summer Freeboard = 41.66MER FREEBOARD amidships from Centre of Disc to top of Deck Line, Steel, Deck: -Tropical Fresh Water Line above Centre of Disc ... 11 $\frac{1}{2}$ Fresh Water ... 5 $\frac{3}{4}$ Tropical ... 5 $\frac{3}{4}$ Winter ... 5 $\frac{3}{4}$ Winter North Atlantic ... ✓Flush Deck Ships ... ✓Tropical Fresh Water Freeboard ... 3'-5 $\frac{3}{4}$ 'Fresh Water ... 2'-6 $\frac{1}{4}$ 'Tropical ... 3'-0'Winter ... 3'-11 $\frac{1}{2}$ 'Winter North Atlantic ... ✓

RECEIVED 5 MAR 1940

RECEIVED 30 JAN 1939

RECEIVED 14 JUN 1939



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
FREEBOARD DECK						SUPERSTRUCTURE DECK					
Description of Hatchway	...	...	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...	...	...
<p>Are wood fore and afters steel shod at all bearing surfaces? <i>✓</i></p> <p>Are battens and wedges efficient and in good condition? <i>✓</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>✓</i></p> <p>Are lashings provided in accordance with rule requirements? <i>✓</i></p>											

## Particulars of fiddle, funnel and ventilator coamings:—

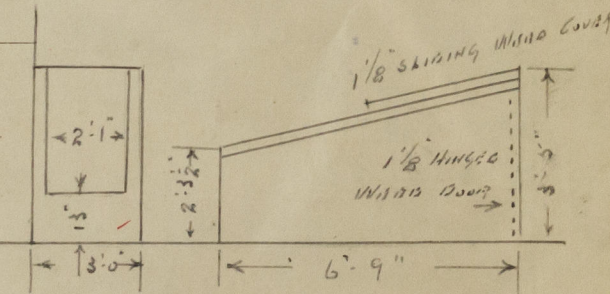
*Easy casing fitted with a strong steel skylight. ✓*  
*Fiddle gratings fitted with efficient steel storm covers permanently attached. ✓*  
*Funnel casing full height of funnel. ✓*  
*Machinery space ventilators of substantial construction, passing inside of casings. ✓*

## Particulars of Flush Bunker Scuttles:—

*None. ✓*

## Particulars of Companionways:—

*Companionway on Poop Deck at side of Deck house to accommodation in Poop. ✓*  
*Steel companionway riveted to deck house and deck plating with hinged wood door and sliding wood cover. ✓*



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

*In Fore castle (to accommodation) 6'-9" dia. with 16" coamings. ✓*  
*In Fore well (to holds) 2'-20" dia. 4'-12" dia. with 32" coamings. ✓*  
*In after structure Deck aft 3'-16" dia. with 36" coamings, 3'-9" dia. with 15" coamings, 2'-9" dia. with 12" coamings. ✓*  
*all fitted with wood plugs and canvas covers. ✓*

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

*Swan neck type. Cast iron. ✓*  
*air pipes 2" to 3" dia. heights to funnels 8" to 13". ✓*  
*Fitted with canvas covers as temporary closing appliances. ✓*

## Particulars of Gangway Cargo and Coaling Ports:—

*Coaling Ports, 3" each side, above freeboard deck with humps to bunkers below. ✓*  
*openings 21 1/4" x 20 1/2". Mild steel plates secured by 24 - 7/8" set pins. ✓*  
*Gangway Doors, one each side, above freeboard deck. ✓*  
*Frames on openings and doors 4" x 4" x .42" angles and 6" x 1 1/4" plates secured by 3 - 6" x 3" x 2" channel stringers. ✓*



Montoro

Particulars of Scuppers and Sanitary Discharge Pipes —

Scuppers and sanitary discharge pipes fitted with one gunmetal automatic  
slam valve.  
No scuppers or discharge from spaces below the freeboard deck.

Particulars of Side Scuttles:

Side Scuttles in Forecastle 10" dia. On Bridge and Poop 12" dia. Below freeboard deck 10".  
Side scuttles in fore-castle fitted with hinged deadlights, On Bridge and Poop without deadlights.  
In cargo and machinery spaces below freeboard deck, fitted with hinged deadlights.  
Sill of lowest side scuttle below top of 2 1/2" deck covering at side amidships 17".

Particulars of Guard Rails:—

On Forecastle:— 3" bar rails 47 inches in height.  
On Bridge and Poop:— 4 bar rail 46 inches in height.

Particulars of Gangways, Lifelines, etc.:—

Crew lashed forward. Efficient lifelines arranged and fitted when 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 ...	28' 9"	3' 3"	2 = 3' 0" x 1' 6", 1 = 2' 0" x 1' 6"	3	12 ft	9.37 ft
Forward Well ...	27' 3"	3' 3"	3' 0" x 1' 6"	2	9 ft	9.22 ft
Forward Well ...	62' 6"	4' 8"	2 = 2' 11" x 1' 5", 1 = 3' 3" x 1' 6"	3	13.1 ft	12.75 ft

State position of each freeing port ... After Well:— 8' 6" → □ ← 9' 3" → □ ← 8" → □ ← 2' 0" x 1' 6" x  
(F. and A. position and height above deck edge) Forward Well:— 4' 6" → □ ← 13' 6" → □ ←  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Height above deck edge F. 14" 9.22"  
Additional area where sheer is less than standard. Fitted with hinged shutters and horizontal bars forward. 1 bar aft.

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"	38"	3 x 2 1/2 x .32	28"	NONE	56" x 24"	21"	8' 3"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ...	38"	32"	3 x 2 1/2 x .32	48"	NONE	64" x 19 1/2"	✓	8' 3"
Bridge, Forward Bulkhead ...	38"	38"	1 1/2 x 3 x .38	30"	NONE	60" x 33"	23"	8' 3"
Forecastle Bulkhead ...	38"	32"	3 x 2 1/2 x .32	42"	NONE	33" x 23"	18"	8' 3"
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	42"	38"	4 x 3 x .32	30"	NONE	64" x 24"	12"	8' 3"
Exposed Machinery Casings on Superstructure Decks ...	42"	38"	4 x 3 x .32	30"	NONE	NONE	✓	7' 9"
Machinery Casings within Superstructures 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 ...	1 1/2" hinged hardwood doors. Can be operated from both sides.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ...	Shifting boards in riveted channels full height of opening.
Bridge, Forward Bulkhead ...	Hinged framed steel doors. Can be operated from inside only.
Forecastle Bulkhead ...	1 1/2" hinged hardwood doors. Can be operated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	One 1 1/2" hinged hardwood door and 2 hinged steel doors. Can be operated from both sides.
Exposed Machinery Casings on Superstructure Decks ...	No openings.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	
Deckhouses on Flush Deck Ships ...	



