

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. **25415**  
(For London Office only.)

11 MAY 1932

GLASGOW REPORT No. **52467**

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having *a closed shelter deck*

(Type of Superstructures.)

Ship's Name *Harmonius*  
*Clan Matheson*

Nationality and Port of Registry *British*  
*Glasgow*

Official Number *141896*

Gross Tonnage *5613*

Date of Build *1919-14*

Port of Survey *Glasgow*

Date of Survey *9th May 1932*

Name of Surveyor *H. Thomson*

Moulded Dimensions: Length *395.0* ✓ Breadth *51.25* Depth *36.5 to shelter deck* ✓  
*28.5 to upper* ✓

Moulded displacement at moulded draught = 85 per cent. of moulded depth  
*13340* tons

Coefficient of fineness for use with Tables

Particulars of Classification *+100 A1*  
*Shelter deck with freeboard*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <i>36.5</i>	(a) Where D is greater than Table depth (D - Table depth) R =	Moulded Breadth (B) <i>51.25</i>
Stringer plate <i>5.0</i> ... ..	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <i>12"</i>
Depth for Freeboard (D) =		Difference
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) =$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Post enclosed ... ..					
„ overhang ... ..					
R.Q.D. enclosed ... ..					
„ overhang ... ..					
Bridge enclosed ... ..					
„ overhang aft ... ..					
„ overhang forward ... ..					
F'cle enclosed ... ..					
„ overhang ... ..					
Trunk aft ... ..					
„ forward ... ..					
Tonnage opening aft ... ..					
„ „ forward ... ..					
Total ... ..					

Standard Height of Superstructure \_\_\_\_\_

„ „ R.Q.D. \_\_\_\_\_

Deduction for complete superstructure \_\_\_\_\_

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

„ „  $\frac{S_1}{L} =$  \_\_\_\_\_

„ „  $\frac{E}{L} =$  \_\_\_\_\_

Percentage from Table, Line A.  
(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 = \_\_\_\_\_

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..		1			<i>54</i>		1		
$\frac{1}{8}L$ from A.P. ... ..		4			<i>20</i>		4		
$\frac{2}{8}L$ „ ... ..		2			<i>4½</i>		2		
Amidships ... ..		4			<i>-</i>		4		
$\frac{3}{8}L$ from F.P. ... ..		2			<i>11</i>		2		
$\frac{1}{8}L$ „ ... ..		4			<i>44½</i>		4		
F.P. ... ..		1			<i>99</i>		1		
Total ... ..									

Mean actual sheer aft = \_\_\_\_\_

Mean standard sheer aft = \_\_\_\_\_

Mean actual sheer forward = \_\_\_\_\_

Mean standard sheer forward = \_\_\_\_\_

Length of enclosed superstructure \_\_\_\_\_ forward of amidships = \_\_\_\_\_

„ „ aft of „ = \_\_\_\_\_

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

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 = \_\_\_\_\_ Ft.

Summer freeboard = \_\_\_\_\_

Moulded draught (d) = \_\_\_\_\_

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

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

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

Summer Freeboard = \_\_\_\_\_

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

Tropical Fresh Water Line above Centre of Disc ... ..	
Fresh Water Line „ „ ... ..	
Tropical Line „ „ ... ..	
Winter Line below „ „ ... ..	
Winter North Atlantic Line „ „ ... ..	

Tropical Fresh Water Freeboard	
Fresh Water „ „	
Tropical „ „	
Winter „ „	
Winter North Atlantic „ „	



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			ho 1.	ho 2.	ho 3.	ho 4.	ho 5.	S. Dk. coaling hatch	casing top coaling hatch	hatch on fore deck	hatch to steering gear
Dimensions of Hatchway			20'-3" x 16'-0"	30'-0" x 16'-0"	12'-0" x 16'-0"	30'-0" x 16'-0"	18'-0" x 16'-0"	5'-6" x 4'-0"	7'-0" x 14'-6"	4'-0" x 3'-0"	3'-9" x 3'-0"
COAMINGS	Height above Deck	...	30	30	30	30	30	30	30	21	24
	Thickness	Sides	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Stiffeners	Ends	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Brackets, Stays	...	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"	8 x 3 x 1/4"
			none	none	none	none	none	none	none	none	none
HATCH BEAMS	Number	...	3	5	2	5	3				
	Spacing	...	5'-0 3/4"	5'-0"	4'-0"	5'-0"	4'-6"				
	Scantling and Sketch	...	14 x 3 1/4	14 x 3 1/4	14 x 3 1/4	14 x 3 1/4	14 x 3 1/4	none	none	none	none
			4 x 3 x 1/4	4 x 3 x 1/4	4 x 3 x 1/4	4 x 3 x 1/4	4 x 3 x 1/4				
	Bearing Surface	...	3	3	3	3	3				
FORE AND AFTERS	Number	...									
	Spacing	...									
	Unsupported Lengths	...									
	Scantling* and Sketch	...	none	none	none	none	none	none	none	none	none
	Bearing Surface	...									
HATCH COVERS	Material	...	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	Steel plate	Steel plate
	Thickness	...	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3
	How fitted	...	F + A	F + A	F + A	F + A	F + A	transverse	F + A	W.I.	W.I.
	Bearing Surface	...	3	3	3	3	3	2 1/2	2 1/2	Cover	Cover
Spacing of Cleats			24	24	24	24	24	24	24	24	24
Number of Tarpaulins			2	2	2	2	2	2	2	2	2
*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?			Ringbolts for lashings provided.								

Particulars of fiddle, funnel and ventilator coamings:—

Engine skylight on casing top of steel strongly constructed.  
 Fiddle openings on casing top closed by strong hinged plate covers.  
 Ventilators on casing top in good condition.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

None.

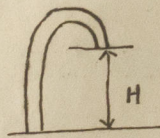
Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

1	Ventilator on fore deck to store	Coaming 36" high x 11" dia x 3/4"
2	" " " " " "	" " " " " "
2	" " " " " "	" " " " " "
2	" " " " " "	" " " " " "
4	" " " " " "	" " " " " "
1	" " " " " "	" " " " " "

Ventilator coamings constructed in accordance with the Rules and closed with wood plugs and canvas covers.

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

1	Air pipe on fore deck to f. p. tank	16" high x 3" dia
1	" " " " " "	" " " " " "
4	" " " " " "	" " " " " "
10	" " " " " "	" " " " " "
4	" " " " " "	" " " " " "
1	" " " " " "	" " " " " "
1	" " " " " "	" " " " " "



no snifting holes fitted.  
 no means of closing air pipes provided.

all the air pipes on the freeboard deck are fitted with ball valves.

Particulars of Gangway Cargo and Coaling Ports:—

None.



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Weather deck scuppers cut in stringer angle.  
Sanitary discharge pipes, in positions shown on sketch, with storm valves at ship's side.

Particulars of Side Scuttles:—

There are no side scuttles below the upper deck.  
Side scuttles in shelter tween decks 9" in dia fitted with hinged iron deadlights.  
Distance from shelter deck stringer plate to lower edge of light = 24".

Particulars of Guard Rails:—

Guard rails on forward after decks where shown on sketch.  
3'9" high with 4 rods. Stanchions 5'3" apart.  
Elsewhere bulwark 3'9" high.

Particulars of Gangways, Lifelines, etc.:—

No gangway or lifeline is fitted on the shelter deck.  
Lifelines fitted in the after part of the foreboard deck for the protection of the crew.

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 ... ..						
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.

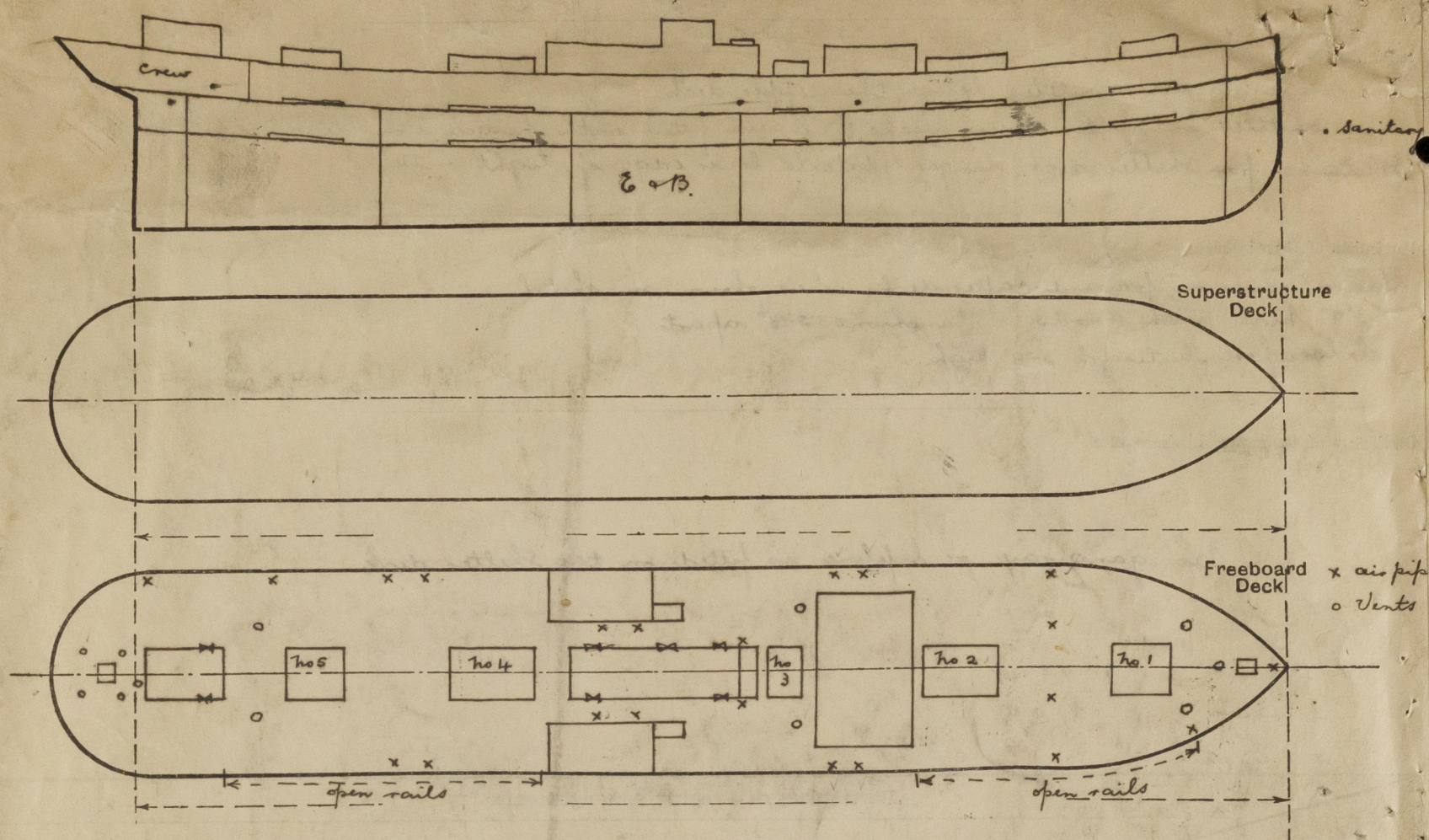
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..								
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Freeboard or Raised Quarter Deck ...	none	32	3 x 3 x 30	30	brackets at top	5'0" x 2'0"	18"	7'-6"
Exposed Machinery Casings on Superstructure Decks ... ..								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..								
Deckhouses on Flush Deck Ships ...	none	30	3 x 3 x 30	33	none	4'10" x 1'10"	16"	7'-3"

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

Poop Bulkhead ... ..	
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ... ..	
Bridge, Forward Bulkhead ... ..	
Forecastle Bulkhead ... ..	
Exposed Machinery Casings on Freeboard or Raised Quarter Deck ...	Hinged steel plate doors. <i>Capable of being operated from both sides</i>
Exposed Machinery Casings on Superstructure Decks ... ..	<i>no means of closing</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	
Deckhouses on Flush Deck Ships ...	Hinged wood door 1 1/2" thick: Manipulated from both sides.



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:—

This vessel is engaged in the Indian, African & Australian trade.  
 Timber freeboard not required.

Full displacement at 26'0" full draft	= 11004 tons.	Tons per inch	= 39.4 tons
" " 27'0" "	" 11477 "	" " "	" 39.42 "
" " 28'5" "	" 11950 "	" " "	" 39.42 "

*JMIT*

This survey has been held afloat and therefore confined to an examination of the means for closing the openings in the decks and side of the ship.  
 No part of a special survey has been held at this time.

Builder's name and yard number *W. Hamilton & Co. Ltd. No. 311*

Names of sister ships *Not known.*

Owners *The Clan Line Steamers Ltd. (Cayzer Irvine & Co. Ltd.)*

Fee £ *13 : 12 : 0*

Received by me

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