

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Pop. Bridge and Forecastle

(Type of Superstructures.)

Ship's Name "MARIETTA" Nationality and Port of Registry Greek SYRA Official Number ✓ Gross Tonnage 4,660 Date of Build 1906

Moulded Dimensions: Length 394.46 Breadth 49.70 Depth 29' 3"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11,300 tons
Coefficient of fineness for use with Tables .811

Port of Survey Antwerp
Date of Survey 13th January 1933
Name of Surveyor A. J. Setac
Particulars of Classification Rec'd At. Sp. No. 12-31
St. Har. No. 3 - 1-23
St. Am. No. 2 - 30

Depth for Freeboard (D)

Moulded depth 29.25
Stringer plate03
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = 29.28

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = (29.28 - 26.30) 3
2.98 x 3 = 8.94
(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) 49.70
Standard Round of Beam = $\frac{B \times 12}{50} = \frac{1193}{50} = \underline{23.86}
Ship's Round of Beam = 12.01
Difference = +0.07
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.07^2}{4} \times \left(1 - \frac{.5102}{.01} \right) = \underline{.01}$$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>37.75</u>	<u>37.75</u>	<u>7' 1"</u>	<u>7.00</u>	<u>35.90</u>	Standard Height of Superstructure <u>7.445</u>
" overhang ...	<u>1.80</u>	<u>1.80</u>	<u>9.80</u>	<u>7.445</u>	<u>1.80</u>	" " R.Q.D.
R.Q.D. enclosed ...	<u>117.88</u>	<u>117.88</u>	<u>7' 0"</u>	<u>7.00</u>	<u>110.83</u>	Deduction for complete superstructure <u>41.63</u>
" overhang ...	<u>5.04</u>	<u>3.78</u>	<u>7' 0"</u>	<u>7.00</u>	<u>3.55</u>	Percentage covered $\frac{S}{L} = \frac{49.30}{100} = 49.30\%$
Bridge enclosed ...	<u>33.80</u>	<u>33.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>32.91</u>	" " $\frac{S_1}{L} = \frac{48.98}{100} = 48.98\%$
" overhang aft ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	" " $\frac{E}{L} = \frac{46.44}{100} = 46.44\%$
" overhang forward ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	Percentage from Table, Line B. <u>32.97</u> (corrected for absence of forecastle (if required))
" overhang ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	Interpolation for bridge less than 2L (if required)
Trunk aft ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	Deduction = <u>13.73</u>
" forward ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	
Tonnage opening aft ...	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	
" " forward	<u>1.80</u>	<u>1.80</u>	<u>7' 3"</u>	<u>7.25</u>	<u>1.80</u>	
Total ...	<u>194.47</u>	<u>193.21</u>			<u>183.19</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft = <u>Green!</u>	Mean standard sheer aft =
A.P. ...	<u>49.45</u>	<u>1</u>	<u>49.45</u>	<u>60"</u>	<u>60.00</u>	<u>60.00</u>	<u>1</u>	<u>60.00</u>	<u>60.00</u>	Mean actual sheer forward = <u>Green!</u>	Mean standard sheer forward =
1/2 L from A.P. ...	<u>22.00</u>	<u>4</u>	<u>88.00</u>	<u>26"</u>	<u>26.07</u>	<u>26.07</u>	<u>4</u>	<u>104.28</u>	<u>104.28</u>	Length of enclosed superstructure forward of amidships = $\frac{67.66}{394.46} = .171$	
1/2 L " ...	<u>5.44</u>	<u>2</u>	<u>10.88</u>	<u>6 1/2"</u>	<u>6.52</u>	<u>6.52</u>	<u>2</u>	<u>13.04</u>	<u>13.04</u>	" " aft of " = $\frac{58.33}{394.46} = .148$	
Amidships ...	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>		
1/2 L from F.P. ...	<u>10.88</u>	<u>2</u>	<u>21.76</u>	<u>13 1/2"</u>	<u>13.32</u>	<u>13.32</u>	<u>2</u>	<u>26.66</u>	<u>26.66</u>		
1/2 L " ...	<u>44.01</u>	<u>4</u>	<u>176.04</u>	<u>53 1/2"</u>	<u>53.32</u>	<u>53.32</u>	<u>4</u>	<u>213.28</u>	<u>213.28</u>		
F.P. ...	<u>98.90</u>	<u>1</u>	<u>98.90</u>	<u>122"</u>	<u>122.00</u>	<u>122.00</u>	<u>1</u>	<u>122.00</u>	<u>122.00</u>		
Total ...	<u>445.05</u>		<u>445.03</u>					<u>539.26</u>	<u>539.26</u>		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{445.03 - 539.26}{18} \left(.75 - \frac{.2465}{.01} \right) = \underline{2.64}$
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 = 29.28
Summer freeboard = 5.75
Moulded draught (d) = 23.53

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{23.53}{4} = 5.88 = 6"$
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 $\frac{.811 + .68}{1.36} = \frac{1.491}{1.36}$

	+	-
Depth Correction ...	<u>8.94</u>	<u>13.73</u>
Deduction for superstructures ...		<u>2.64</u>
Sheer correction ...		<u>.01</u>
Round of Beam correction ...		
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	<u>8.94</u>	<u>16.38</u>
Summer Freeboard =	<u>69.78</u>	<u>76.50</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, W, Steel, Deck: 5-9

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

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N°1	N°2	N°4	N°5	N°3	N°3	N°6	N°6	N°6
Dimensions of Hatchway		15'0" x 18'0"			12'6" x 18'0"	12'6" x 18'0"	12'6" x 18'0"	12'6" x 18'0"	12'6" x 18'0"
COAMINGS	Height above Deck	36"	36"	36"	36"	36"	36"	36"	36"
	Thickness Sides	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Thickness Ends	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"
	Stiffeners	None	None	None	None	None	None	None	None
HATCH BEAMS	Number	4	4	4	4	4	4	4	4
	Spacing	5'0"	5'0"	5'0"	5'0"	5'0"	5'0"	5'0"	5'0"
	Scantling and Sketch	Plate	2 1/2" x 38"	2 1/2" x 38"	2 1/2" x 38"	2 1/2" x 38"	2 1/2" x 38"	2 1/2" x 38"	2 1/2" x 38"
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch								
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood
	Thickness	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"
	How fitted	Fore and aft	Fore and aft	Fore and aft	Fore and aft	Fore and aft	Fore and aft	Fore and aft	Fore and aft
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats									
Number of Tarpaulins									

Particulars of fiddle, funnel and ventilator coamings: 2 ventilators 24" dia. to boiler room.
2 " 20" " to engine room.
Engine room steel skylight with flap cover and bull's eye.
Fiddle openings are provided with hinged steel covers.
Height of casing 6'10" on bridge deck.

Particulars of Flush Bunker Scuttles: -

Particulars of Companionways: -

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:
On Fore Deck. 3 off. 5' dia x 14" casing x 26".
2 " 8" " x 24" " x 28".
1 " 12" " x 12" " x 30".
2 " 15" " x 20" " x 30".
On Fore Well. 1 " 15" " x 36" " x 30".
On Bridge Deck. 4 off. 6' dia x 16" casing x 26".
and 2 vents. on top of Danmon posts.
On After Well. 4 off. 15' dia x 36" casing x 30".
2 " 15" " x 36" " x 30".
On Poop Deck. 2 " 9" " x 24" " x 30".

All ventilators are provided with wood plugs and canvas covers.
Riveting to steel decks to Rule's requirements.

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

On the Forecastle steel pipe 4" dia., 14" high, no means of closing.
Other air pipes openings are flush on deck and fitted with screwed caps.

Particulars of Gangway Cargo and Coaling Ports: -

Particulars of Scuppers and Sanitary Discharge Pipes — In Forecastle only, fitted with storm valves, opening on the sides above the P. Deck.

Particulars of Side Scuttles: 8" scuttles in Forecastle and after end of bridge, with covers permanently attached.

Particulars of Guard Rails: —
On Fore and Poop Decks. 37" 1" bar.
On Bridge Deck. 37" 1" bar.
18" 3/4" bar.
1 1/4" chain spaced 5'0".
26" 3/4" bar.
12" 3/4" bar.
Transverse 1 1/4" spaced 5'0".

Particulars of Gangways, Lifelines, etc.: — Steel wires rigged in Fore well and after well between ladders to superstructure decks and lashed to eyebolts on hatchway coamings.

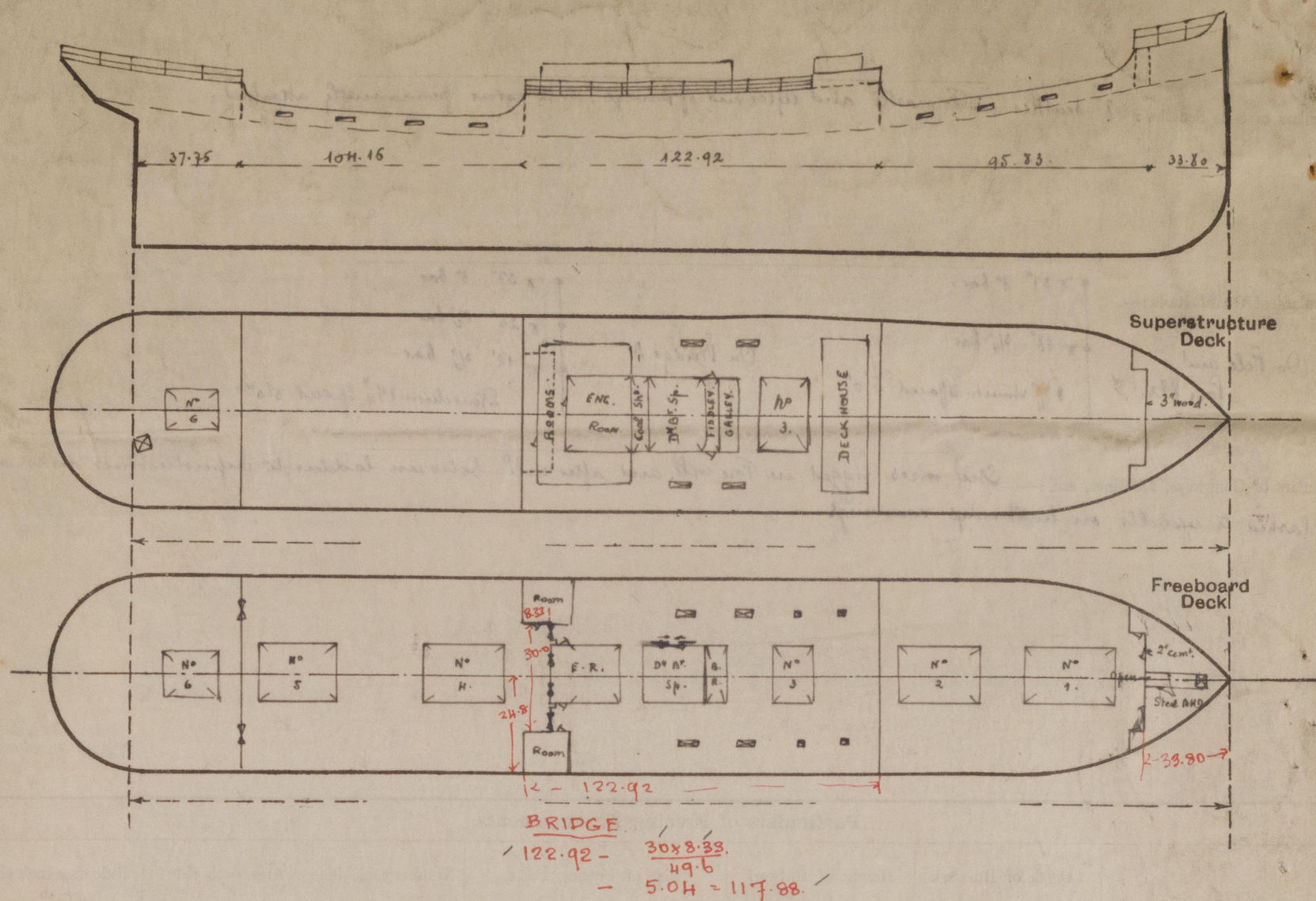
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	104' 16"	3' 9"	39" x 18"	4	19.50 sq ft.	20.80 sq ft.
Forward Well	95' 84"	3' 9"	39" x 18"	4	19.50 sq ft.	19.17 sq ft.

State position of each freeing port: — After Well: 37.50.62. (Poop post at fr. 13. Dog post at fr. 68. Lower edge of P. and A. position and height above deck edge) Forward Well: 131.141.149.161 (Bridge post at fr. 127. Fore post at fr. 173).
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — Hinged shutters, 1 bar 1/2" dia. across.
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	40"	38"	1 1/2" x 3" x 38"	27"		63" x 36"	19"	7' 4"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	Vertically	32"	1 1/2" x 3" x 32"	32"		60" x 36"	18"	7' 0"
Bridge, Forward Bulkhead	44"	40"	1 1/2" x 3" x 50"	30"	Bars top & bottom	None		7' 0"
Forecastle Bulkhead	Vertically	30"	1 1/2" flange	30"		54" x 24"	18"	7' 3"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	32"	30"				54" x 28"	24"	6' 10"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	40"	30"	5" x 3" x 36"	50"	Bars on top in Eng. Room only.	54" x 28" to E.R. 54" x 18" to D.B. space.	24"	7' 0"
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	Sliding boards 3" in riveted channels full height of the opening, and hinged steel door outside.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Sliding boards 3" in riveted channels full height of the opening. Let down in E. Comp.
Bridge, Forward Bulkhead	
Forecastle Bulkhead	Hinged steel doors, with ordinary locks.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors to Fiddle and Dankey boiler space, manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	(To E.R. Hinged steel doors manipulated from both sides. (No openings in the Foreb. Deck in the Dankey boiler space).)
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:—

In the after bulkhead of the Engine Room bulkhead on the Freeboard Deck (Bridge after end), 2 openings 20" high x 29" wide, lower edge 48" above P^d Deck, are fitted with hinged steel covers, secured by bolts from the inside of the casing:—

Moulded displacement at 85% of moulded depth. 11,300 Tons.

External " at 23'0" draught. 10,354 Tons Tons per inch. 110 Tons

" " 24'0" " 10,834 " " " 110 "

The vessel has been examined afloat, discharging, and no parts of the Special Survey have been carried out.

A. Retar

Builder's name and yard number *J. & C. Thompson & Sons, Ltd. Sunderland.*

Names of sister ships

Owners *R. Eustathiou & Co.*

Fee £ *£5.000* *1/4/33*

Tr Exp. 70.00

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