

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD. **F.5.**Computation of Freeboard for Steamer, Sailing Ship, Tanker
having **Deep. Bridge & Forecastle.**Port of Survey **Lisbon.**

(Type of Superstructures.)

Date of Survey **4+5/8/32**

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
MARIA CHRISTINA.	Portuguese Lisbon	-	3265	1920 <i>7 mo</i>

Name of Surveyor **G. T. B. Scullard.**

Moulded Dimensions: Length **333.54** ✓ Breadth **47.75** ✓ Depth **24.92** ✓
Moulded displacement at moulded draught = 85 per cent. of moulded depth **7596** ✓ tons
Coefficient of fineness for use with Tables **.788** ✓

Particulars of Classification **+100 A1****S.S. No. 2-29**

Depth for Freeboard (D)
Moulded depth **24.92**
Stringer plate **.03**
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$ ✓
Depth for Freeboard (D) = **24.95**

Depth correction
(a) Where D is greater than Table depth ✓
(D-Table depth) R = ✓
(24.95 - 22.24) 2.566 = +6.95
(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) **47.75**
Standard Round of Beam = $\frac{B \times 12}{50} =$ **11.46** ✓
Ship's Round of Beam = **12.00**
Difference **.54**
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.54}{4} \times .5055 =$ **-.07**

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	29.12	29.12	7'-6"	✓	29.12
" overhang ...	2.15	2.15			2.15
R.Q.D. enclosed ...					
" overhang ...	98.00	98.00	7'-6"	✓	98.00
Bridge enclosed ...	1.50	1.50			1.50
" overhang aft ...	1.00	1.00			1.00
" overhang forward ...	31.38	31.38	7'-6"	✓	31.38
" cle enclosed <i>Equino</i> ...	1.78	1.78			1.78
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	168.58	164.93			164.93

Standard Height of Superstructure **6.835** ✓

" " R.Q.D. ✓

Deduction for complete superstructure **37.57** ✓Percentage covered $\frac{S}{L} =$ **50.54 %** ✓" $\frac{S_1}{L} =$ **49.45 %** ✓" $\frac{E}{L} =$ **49.45 %** ✓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 = **37.57** × **.3553** = **-13.35** ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	43.354	1		43.35	54	54.75	1		54.75
$\frac{1}{8}L$ from A.P. ...	19.29	4		77.16	19	19.50	4		78.00
$\frac{2}{8}L$ " ...	4.77	2		9.54	1	0	2		0
Amidships ...	✓	4		✓	0	0	4		0
$\frac{2}{8}L$ from F.P. ...	9.54	2		19.08	17	14.40	2		28.80
$\frac{1}{8}L$ " ...	38.58	4		154.32	50	49.50	4		198.00
F.P. ...	86.71	1		86.71	113	114.00	1		114.00
Total ...				390.16					473.55

SHEERS	AFT.		
43.35	1	43.35	54.75
19.29	3	57.87	19.50
4.77	3	14.31	0
		115.53	113.25
		Deficient 98 %	= 98 %

Mean actual sheer aft =
Mean standard sheer aft = **Excess**Length of enclosed superstructure forward of amidships = **>.1L** ✓" " aft of " = **>.1L** ✓Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{83.39}{18} \times (.75 - .2527) =$ **-2.30**

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 = **24.95**
Summer freeboard = **3.94**
Moulded draught (d) = **21.01**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **5.25** ✓
Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ **7571**
Tons per inch immersion at summer load water line
 $T =$ **31.75**

Deduction = $\frac{\Delta}{40T}$ inches
= **5.96** ✓

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient $\frac{.788 + .68}{1.36} = \frac{1.468}{1.36}$

	+	-
Depth Correction ...	6.95	✓
Deduction for superstructures ...	13.35	✓
Sheer correction ...	2.30	✓
Round of Beam correction ...	.07	✓
Correction for Thickness of Deck amidships ...	✓	✓
Other corrections, scantlings, etc. ...	✓	✓
	6.95	15.72

Summer Freeboard = **47.32**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck** :- **47.32**

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 " " ...	...

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

None. ✓

Particulars of Companionways :—

None. ✓

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

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

File Goosecks of steel 1- $2\frac{1}{2} \times 1\frac{1}{2}$ " L F.P. ✓ 1- $2\frac{1}{2} \times 17$ " L N? 1. ✓
Forewall. 2- $2\frac{1}{2}$ " L S.B. Tanks against, free height, bulkhead. ✓ Bridge 2- 4×36 " L S.B. tanks.
afterwall 2- $2\frac{1}{2}$ " " " " " " ✓ Door 1- $2\frac{1}{2} \times 18$ " L after peak.
~~is closed.~~ Means of Closing provided

Particulars of Gangway Cargo and Coaling Ports :—

None. ✓

Particulars of Scupperns and Sanitary Discharge Pipes —

Bridge Spec. Offn W.C. 1-6" Engine W.C. 1-6" steel pipes & K.K. valves } discharge above
both 1-2" " both 1-2" " no valves. } fixtures deck

Dock. lower W.C. 2-4" steel pipes & K.K. valves. discharge below F.D. deck.

Particulars of Side Scuttles :

above foreboard deck only. Strongly constructed with efficient
deadlights, hinged in place. ✓

Particulars of Guard Rails :—

Tree	36" high	3 rods at 12, 24, 36"	Stanchion spacing	4' 7 1/2"	✓
Bridge	36"	" " "	"	4' 4"	✓
Door	38"	" " 14, 26, 38"	"	4' 2"	✓

Particulars of Gangways, Lifelines, etc. :—

In after well. Wood gangway above level of hatchways. 2' 3" wide.
Two rows of stanchions 7' 6" apart with one row of ~~stanchions~~ through eyes.
Gangway on port side only. ✓ Crew aft.

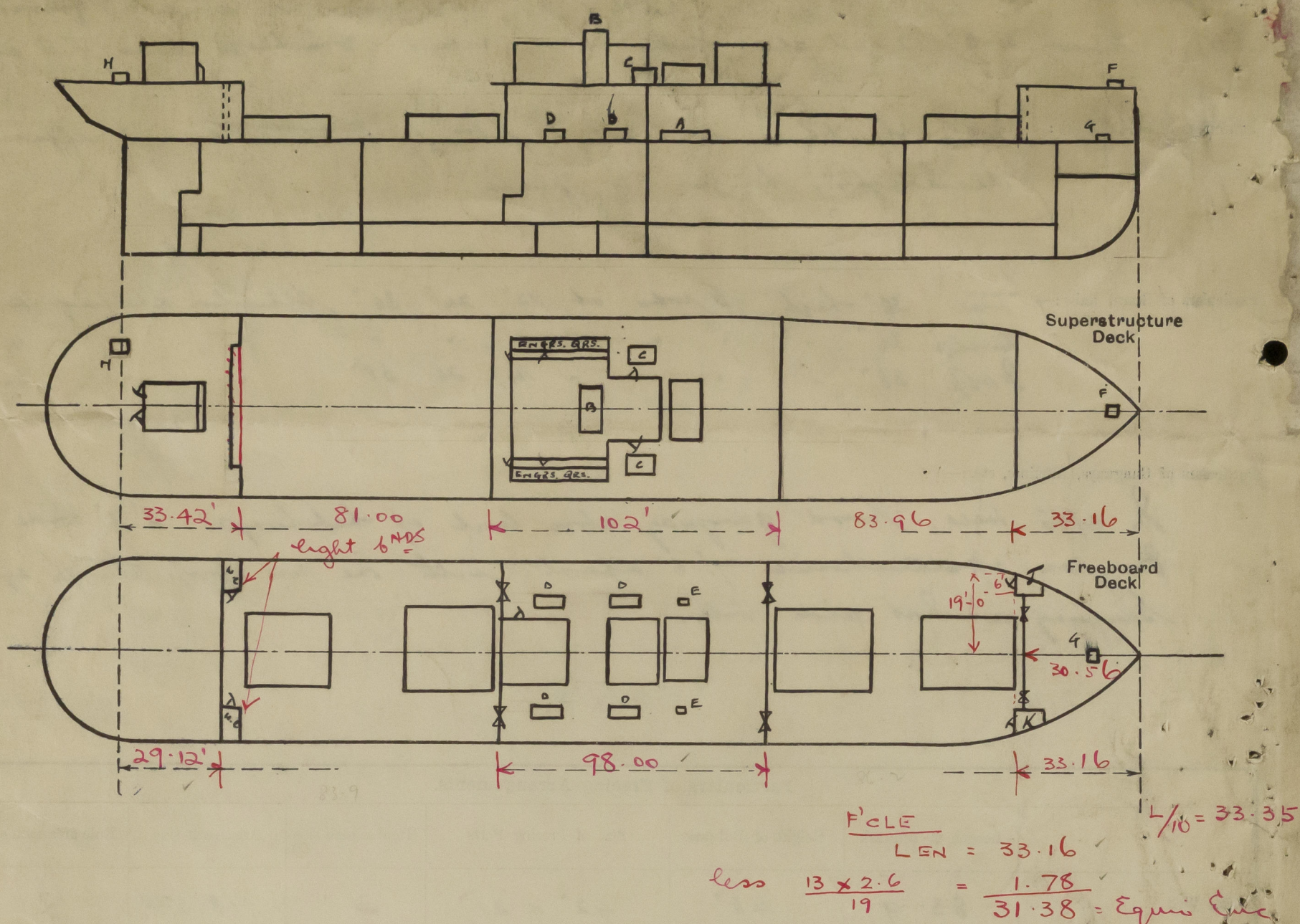
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	81.00 83.9	48"	42" x 21"	3	18.5 ✓	16.70 17
Forward Well	86.2 83.96	47"	42" x 21"	3	18.5 ✓	16.8 17
<p>State position of each freeing port } After Well:— 13' 3", 43' 8", 68' 9". 14' above deck.</p> <p>(F. and A. position and height above deck edge) } Forward Well:— 26' 2", 50' 8", 75' 8".</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 3 vertical 1" bars.</p>						
Additional area where sheer is less than standard.						

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	-	$\frac{3}{8}$ " ✓	L $5\frac{1}{2}" \times 3" \times \frac{1}{4}"$ ✓	30" ✓	✓			7'6" ✓
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead		$\frac{5}{16}$ " ✓	L $5" \times 3" \times \frac{3}{8}"$ ✓	30" ✓	✓	2 - 4' x 3' ✓	18" ✓	7'6" ✓
Bridge, Forward Bulkhead	$20" \times \frac{7}{16}"$ ✓	$\frac{3}{8}"$ ✓	A.R. $8" \times 3\frac{1}{2}" \times \frac{1}{2}"$ ✓	30" ✓	Brackets Top & Bot.	2 - 4'6" x 33" 2 - 4'6" x 37"	21" 15"	7'6" ✓
Forecastle Bulkhead		$\frac{5}{16}$ " ✓	L $5" \times 3" \times \frac{1}{4}"$ ✓	29" ✓	✓	2 - 3'9" x 24" ✓	22"	7'6" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks		$\frac{5}{16}"$ ✓	L $3" \times 3" \times \frac{7}{16}"$ ✓	26" ✓	✓	2 - 4'9" x 24" ✓	18" ✓	7'6" ✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances		$\frac{7}{16}"$ ✓	flanged plate 4" & aluminum angle $2" \times 3" \times \frac{3}{8}"$ ✓	29" ✓	Brackets at Top. ✓	Bridge - 2'5" x 24" BUNKER - 1'5" x 24"	14" 14½"	7'6" ✓
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	...	...	...	Forw of bulkhead, 16 W.C's 2 hinged steel doors, operated both sides.
Raised Quarter Deck Bulkhead	...	...	...	Steel plates, secured vertically by 7/8" hooked Bolts to stiffeners, 10" apart.
Bridge, After Bulkhead	...	...	...	" horizontally by 7/8 Bolts & clips to bulkhead, 9"
Bridge, Forward Bulkhead	...	...	...	2-hinged steel watertight doors, operated outside only. (Leads to upper bunkers)
Forecastle Bulkhead	...	...	...	2-hinged steel doors, 16 lamp room & paint locker, operated both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...	...	2-shifting boards full height, in riveted channels. Boards 2 1/4"
Exposed Machinery Casings on Super-structure Decks	...	...	...	2 hinged steel doors, operated both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	Bridge - 2 hinged steel doors operated both sides.
Deckhouses on Flush Deck Ships	...	...	...	Bunker - 1 " " " " " "

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:—

Small Hatches: Trimming 'E' $21\frac{1}{2} \times 30\frac{1}{2}$, Roaming B.A. $9 \times 3\frac{1}{2} \times \frac{1}{2}$, Hatch cover $2\frac{1}{2}$ of
 Barring 3", plate spacing 14". ✓
 "F" 29×26 , Roaming $12 \times \frac{5}{16}$, covers w.p. $2\frac{1}{2}$, Barring 3", plate 20", Lap joint 2",
 Steel plate over, fastened by 4 hinges $\frac{7}{8}$ " bolts & dogs. ✓
 "G" 23×20 , Roaming $12 \times \frac{5}{16}$, covers $2\frac{1}{2}$, Barring 3", plate 12". ✓
 "H" 35×37 , " $9 \times \frac{5}{16}$ " $2\frac{1}{2}$ " $1\frac{3}{4}$ " 19" Steel plate
 over fastened as "F". ✓
 Forecastle space a Brethwaite store, "T" Paint Locker & "K" Ramp Room.
 Crew housed aft in Doop. ✓
 Deadweight scale $17\frac{1}{2}$ - 4,000 tons; $18\frac{1}{2}$ - 4,500; 20 - 5,000; $21\frac{1}{2}$ - 5,500.
 The summer line now at $21\frac{1}{2}$.
 Vessel examined in Drydock & found in good condition.

Builder's name and yard number Smiths Dock Works, Tinsdalebrook No. 759.

Names of sister ships _____

Owners Soc. General de Com. Industrial y Transporte, Ltd

Fee £ _____ Received by me _____



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