

-6 DEC 1932

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

combined poop & bridge and forecastle

Port of Survey

Hamburg

Date of Survey

14th 17th November 1932

Name of Surveyor

Th. Goring

Particulars of Classification

100 A1
S.S. is 2nd No. 3-5-57
S.S. is No. 31

Ship's Name

"MIRANDELLA"

Nationality and Port of Registry

PORTUGUESE
LISBON

Official Number

358 F

Gross Tonnage

5179.47

Date of Build

1906

Moulded Dimensions: Length 410.795 Breadth 52.75 Depth 30.875

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

12525

tons

Coefficient of fineness for use with Tables

0.772

Depth for Freeboard (D)

Moulded depth ... 30' 10 1/2" ... 30.875

Stringer plate ... 1/2" ... 0.065

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) = .25 \times .245 = .06$

Depth for Freeboard (D) =

30.99

Depth correction

(a) Where D is greater than Table depth

 $(D - \text{Table depth}) R = (30.99 - 27.37) 3.00 = +10.8"$

(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)

Standard Round of Beam = $\frac{B \times 12}{50} = 12.65$

Ship's Round of Beam = 12 1/2

Difference

.15 deficient

Restricted to

Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.15^2}{4} \times .2488 = +.01"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.O.D. enclosed ...	260.37	260.37	18' 0"	+3" sheathing	260.37
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
Forecastle enclosed ...	49.79	48.85	8' 0"	+3" sheathing	48.85
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	310.16	309.22			309.22

Standard Height of Superstructure

7' 6"

R.Q.D.

Deduction for complete superstructure

42.00

Percentage covered $\frac{S}{L} = 75.50\%$ " $\frac{S_1}{L} = 75.28\%$ " $\frac{E}{L} = 75.28\%$

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

69.50%

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

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

Deduction = $42.00 \times .6950 = -29.19"$

SHEER CORRECTION.

Actual T.D. = 8' 0"
Standard 7' 6"
6" + 3" sheathing = 9" excess

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	57.08	1	57.08	44.5	42.50	51.50	51.50
1/4 L from A.P. ...	22.73	4	90.92	11.5	10.00	19.00	76.00
2/4 L " ...	5.62	2	11.24	3.5	2.00	3.00	6.00
Amidships ...		4		0			
3/4 L from F.P. ...	11.24	2	22.48	19.5	10.96	10.96	21.92
1/4 L " ...	45.46	4	181.84	49.0	43.84	43.84	175.36
F.P. ...	102.16	1	102.16	102.5	102.50	102.50	102.50
Total ...	459.72		459.72				433.68

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{260.4}{18} = 14.47$ $\left(.75 - \frac{S}{2L} \right) = \frac{260.4}{18} (.75 - .3775) = +.54"$

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 = 30.93

Summer freeboard = 5.11

Moulded draught (d) = 25.82

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.45 = 16 1/2

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12413$

Tons per inch immersion at summer load water line

T = 44.58

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

= 6.96" = 17 1/2

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{772 + 68}{1.36} = \frac{1452}{1.36} = 1067.6$

	+	-
Depth Correction ...	10.80	
Deduction for superstructures ...		29.19
Sheer correction ...	54	
Round of Beam correction01	
Correction for Thickness of Deck amidships72
Other corrections, scantlings, etc. ...		
	11.35	18.56
		61.35

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, etc.

Tropical Fresh Water Line above Centre of Disc ...	341 1/2	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	177	Fresh Water " " ...
Tropical Line " " ...	164	Tropical " " ...
Winter Line below " " ...	164	Winter " " ...
Winter North Atlantic Line " " ...		Winter North Atlantic " " ...

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
ON FREEBOARD DECK					ON BRIDGE DECK				
Description of Hatchway	No. 1	No. 2	No. 3	No. 4 & 5	No. 3	No. 4 & 5	COAL HATCHES 1-6		
Dimensions of Hatchway	26'10" x 14'1"	31'3" x 17'1"	11'3" x 6'3 1/2"	35'8" x 14'10"	17'10" x 13'10"	31'3" x 14'10"	60" x 30"		
COAMINGS	Height above Deck	33"	do.	11"	33"	33"	22"		
	Thickness	1 1/2"	do.	9 x 3 1/2 x 3/8	1 1/2"	1 1/2"	8/20		
	Stiffeners	5 x 8 x 3 1/2 x 3/8		none	8 x 3 1/2 x 3/8	do.			
	Brackets, Stays	none	none	none	none	none			
HATCH BEAMS	Number	3	3	4	2	3			
	Spacing	80"	93"	85"	70"	93"			
	Unsupport Lengths	3 x 3 = 8/20		6 1/4 x 5/8	3 x 3 = 8/20	8/20			
	Scantling and Sketch	44" x 40" do.	none	16 3/4 x 1 1/2	44" x 40" do.	do.	none		
FORE AND AFTERS	Bearing Surface	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"			
	Number	3	3	3	3	3			
	Spacing	42"	51"	44"	41"	44"			
	Unsupport Lengths	72"	87"	79"	62"	87"			
HATCH COVERS	Scantling* and Sketch	centre 9 1/2 x 7 1/2	11 x 7 1/2	none	10 x 8	10 x 8	none		
		sides 8 x 8	do.	do.	do.	do.			
	Bearing Surface	3	3	3	3	5			
	Material	Pine	do.	steel	do.	do.	Pine		
HATCH COVERS	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"		
	How fitted	thwartship	do.	wood hatches	do.	do.	thwartship		
	Bearing Surface	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"		
	Spacing of Cleats	27"	27"	24"	27"	27"	24"		
Number of Tarpaulins		5	5	none	5	5	3		
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes.</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes.</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes.</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes.</i></p>									

Particulars of fiddley, funnel and ventilator coamings:— *Fiddley top 29 1/2" above deckhouse on bridge deck. Openings in fiddley deck closed by steel covers permanently attached. Funnel and ventilator coamings efficiently fastened to fiddley deck by riveted angles.*

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:— *One steel companion aft on poop to store room below. Doors in companion of steel, fastened with lock & key only. Till 10" above wood deck.*

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

All ventilators on freeboard deck forward are fitted with coamings 32 1/2" high above wood deck, thickness of coamings 5/8", diam. 22". Ventilators on forecabin deck and on combined poop & bridge deck are fitted with coamings 28 1/2" high above wood deck, thickness of coamings 5/8", diam. 22". All ventilators are provided with wooden plugs and canvas covers.

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

All air pipes on freeboard deck and superstructure decks are of substantial construction and the height from deck to the opening is 20". Wooden plugs and canvas covers not fitted.

Particulars of Cargo and Coaling Ports:—

none.



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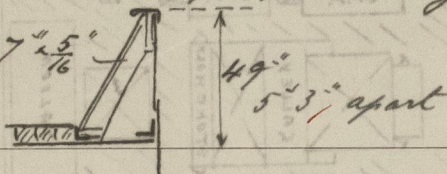
Lloyd's Register Foundation

1.5

No overboard scupper from combined
pump & bridge

None below first and dark. ✓

On forecable deck and on combined poop & bridge deck.



On foreboard deck forward:

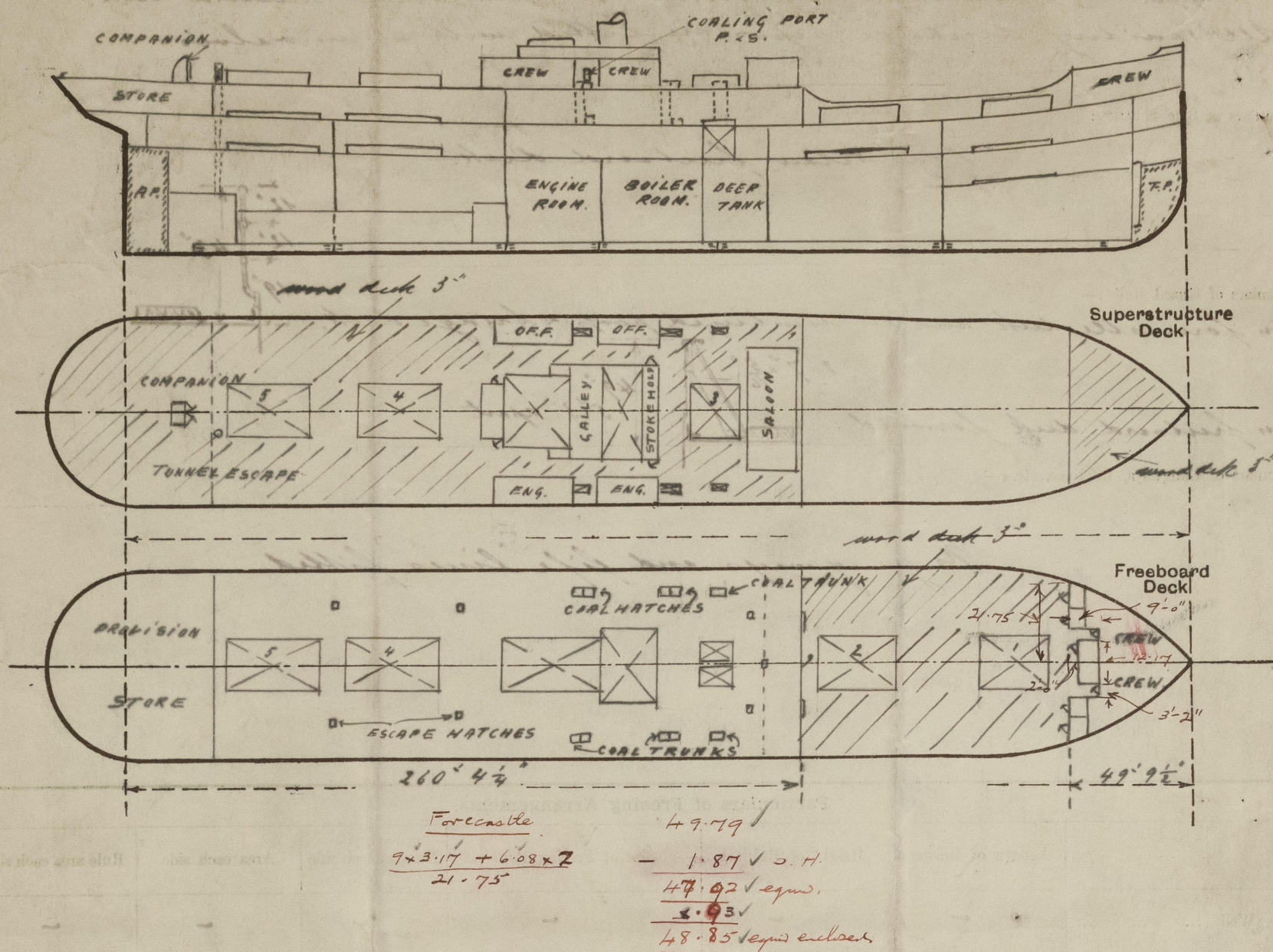
Provision for
~~No gang ways~~ and life lines fitted.

002279-002282-0174 2 1/2

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	$\frac{7}{20}$ "	$\frac{7}{20}$ "	$7' \times \frac{3}{8} \times 3\frac{1}{2} \times \frac{1}{8}$ channel	25"	bracketed top & bottom	$37\frac{1}{2} \times 64$ "	13"	8"
Forecastle Bulkhead	$\frac{7}{20}$ "	$\frac{7}{20}$ "	$6\frac{1}{2} \times \frac{3}{8} \times 3\frac{1}{2} \times \frac{1}{8}$ channel	24"	none	24×60 "	15"	8"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super- structure Decks	$\frac{7}{20}$ "	$\frac{6}{20}$ "	$3 \times 2\frac{1}{2} \times \frac{5}{32}$ H	27"	none	32×66 "	13"	8"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	$\frac{7}{20}$ "	$\frac{6}{20}$ "	$4\frac{3}{4} \times 3 \times \frac{7}{16}$ H	27"	none	none	-	8"
Deckhouses on Flush Deck Ships ...								

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	Two openings closed by a bolted steel plate; ($\frac{3}{4}$ " bolts 5" apart).
Forecastle Bulkhead	Openings closed by steel or teak wood doors, fastened with lock & key only.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	Two openings to stokehold closed by hinged steel doors; } fastened by lock
Exposed Machinery Casings on Super-structure Decks	" " to engine room " " " teak wood " } and key only.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
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 Survey for the road line has been held afloat.

The forecastle deck, fore and aft deck forward and the combined poop & bridge deck are sheathed with wood 3" thick.

Displacement in saltwater at 25' draught = 11860 tons

26 - 12390
27 - 12425

5.0000	Monetary	= 25.84	
		1.21	
		<u>26.05</u>	
			$\Delta = 12370$

Builder's name and yard number.

Brewer Tulcan, Yegerack

Names of sister ships

Owners

Soc. Geral de Commercio, Industria e Transportes, Ltda.

Fee £.

13 : 12 : 0

Received by me,