

Rpt. C.11.

Index. No. **16281**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

F. 24.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Roof, long bridge & forecastle hull deck.

(Type of Superstructures.) 5605g in 2B

Ship's Name CUBANGO Nationality and Port of Registry PORTUGUESE LISBON Official Number 5820 Gross Tonnage 1903 Date of Build -3

Port of Survey LISBON

Date of Survey 6. 1. 33.

Name of Surveyor G. T. B. Scullard

Moulded Dimensions: Length 425' Breadth 52' 53.00 Depth 32' 2"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 14032 tons

Coefficient of fineness for use with Tables .799

Particulars of Classification +100 A1 Spar Deck
S.S. Lis. No. 3-6.20
S.S. N° 1-29.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	32.17	(a) Where D is greater than Table depth (D-Table depth) R = (32.33 - 28.33) 3.00		Moulded Breadth (B)	53.00
Stringer plate	.05	= + 12.00"		Standard Round of Beam = $\frac{B \times 12}{50}$	12.72"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .23 \times \frac{194.47}{425}$.11	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam	13.00"
Depth for Freeboard (D) =	32.33	If restricted by superstructures		Difference	.28" excess
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{.28}{4} \times .5336 = -.04"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	58.00	58'	7' 5"		58.00	Standard Height of Superstructure <u>7.50</u>
" overhang ...			+2 3/4"			" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.00"</u>
" overhang ...		91.75				Percentage covered $\frac{S}{L} = 54.21\%$
Bridge enclosed ...	122.33	114'	7' 4"	41.45	91.14	" " $\frac{S_1}{L} = 46.64\%$
" overhang aft ...			+2 3/4"			" " $\frac{E}{L} = 46.42\%$
" overhang forward		46.88		4.45		Percentage from Table, Line A.
F'cle enclosed ...	46.88	50	7' 4"	7.50	46.57	(corrected for absence of forecastle (if required))
" overhang ...	3.12	1.56	+2 3/4"		1.55	Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required)) <u>32.97%</u>
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>42.00</u> x <u>.3297</u> = <u>-13.85"</u>
" " forward						
Total ...	230.33	198.19			197.26	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	
A.P. ...	52.50	1	52.50	33	33.00	1	33.00	Mean actual sheer aft = Deficient
1/8 L from A.P. ...	23.36	4	93.44	14.41	14.41	4	57.64	Mean actual sheer forward = Deficient.
1/4 L " ...	5.77	2	11.54	3.6	3.60	2	7.20	Mean standard sheer forward = Deficient.
Amidships ...	✓	4	✓	0	✓	4	✓	Length of enclosed superstructure forward of amidships =
3/8 L from F.P. ...	11.55	2	23.10	10.42	10.42	2	20.84	" " aft of " = } sheer deficient
1/2 L " ...	46.72	4	186.88	41.67	41.67	4	166.68	
F.P. ...	105.00	1	105.00	96	96.00	1	96.00	
Total ...	472.5		472.46				381.36	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{91.10}{18} \left(.75 - \frac{.2710}{.479} \right) = + 2.42"$$

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 = 32.22'

Summer freeboard = 7.12'

Moulded draught (d) = 25.10'

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.27 = 159%

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= 159%

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.799 + .68}{1.36} = \frac{1.479}{1.36}$$

Depth Correction ...
Deduction for superstructures ...	12.00	-	13.85
Sheer correction ...	2.42	-	
Round of Beam correction ...	-	.04	
Correction for Thickness of Deck amidships ...	-	1.32	
Other corrections, scantlings, etc. ...	-	-	
	14.42	15.21	- .79
Summer Freeboard =	85.51		
SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 7' 1 1/2" = 2172 mmTropical 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 " " ...

6m, 0.32.

1906 freeboards assigned

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— *wood plug seams covers all vents*

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

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles:—

Particulars of Guard Rails :—

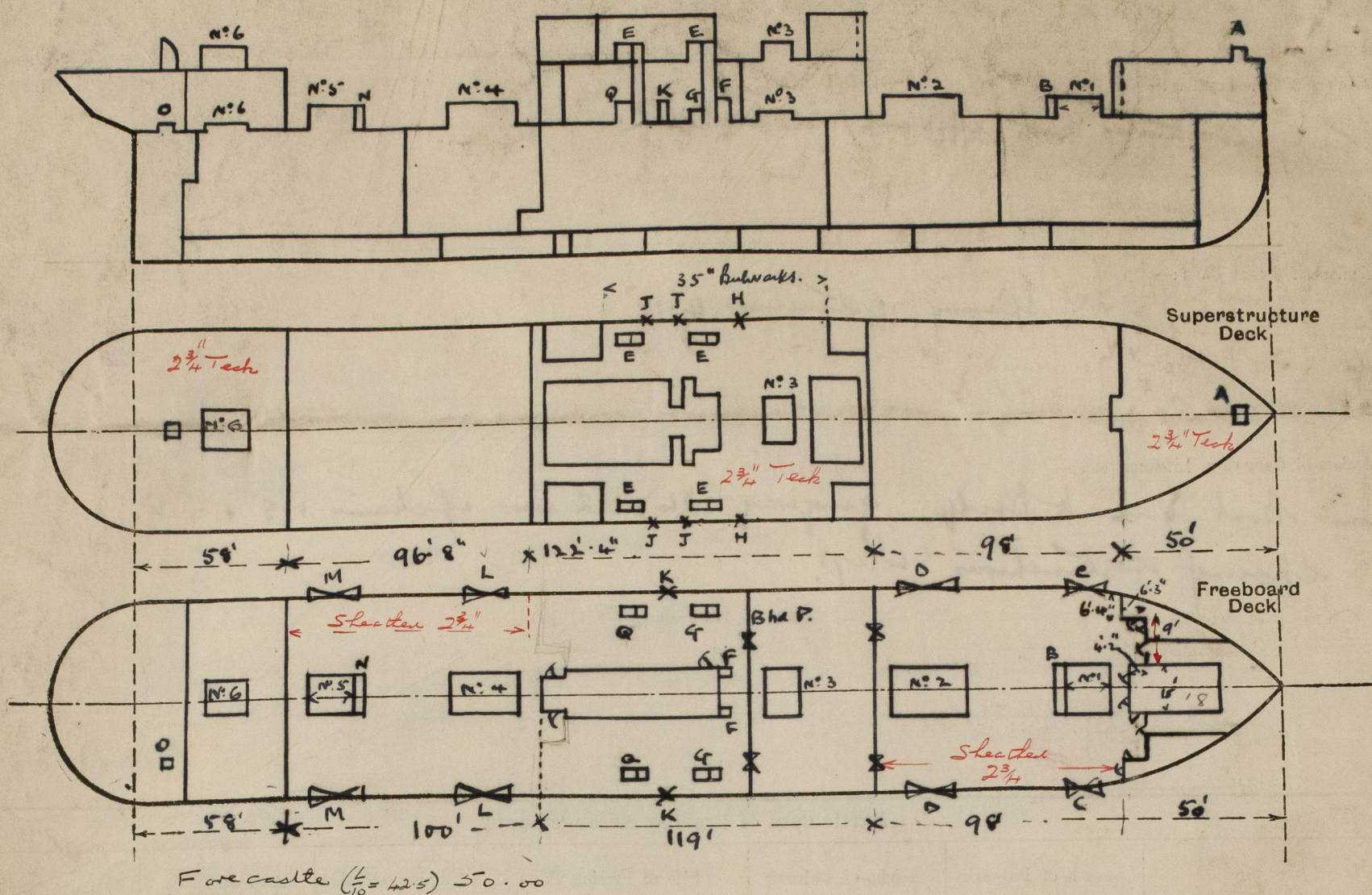
Particulars of Gangways, Lifelines, etc. :—

Particulars of Freeing Arrangements.

Particulars of Superstructures, Trunks, Casings, Deckhouses.Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	2- 3' ston Boards - rivetted channels, full height >
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	open ✓
Bridge, Forward Bulkhead	2- Hinged shut doors fastened by bolts secured through bulkhead plate. Vertical pitch 14 1/2". Horizontal pitch 10 1/8"
Forecastle Bulkhead	All openings closed by hinged 1 1/2" wood doors.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	2- Hinged shut doors operated both sides, to Engine Room
Exposed Machinery Casings on Superstructure Decks	2- " " " " " " " " Stoked hold
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	1- Hinged shut door bolted from outside, operated both sides
Bulkheads "P" in Bridge Space Bulkheads on Flush Deck Ships ...	2- 3' ston Boards in rivetted channels, full height.

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:—



Fore castle $(\frac{L}{10} = 42.5) 50.00$
 Recess. $6.35 \times 9 \div 24.33$ $- 3.12 \times 0.11$
 2.17×9 46.88 equiv.

State any special features in the construction of the ship:—

A' fore-castle store, $4' 2" \times 5' 2"$, Coaming $27"$ Hatch $27"$ Barring $2"$ Fitted $1/8$ 2 Tarpanes. Cleats $1"$
 B' extension of N°1 hatch to deck only $5' \times 14'$ " $33"$ " $3'$ " $2 1/2"$ $1/8$ 3 " $4'$ $1/2$ $1/8$ $1/8$
 E' coaling with trunk, $1' 11" \times 2' 6"$ " $31"$ " $2 3/4"$ " $1 1/2"$ " $1/8$ 2 " Cleats $1"$
 F' " $4' 3" \times 4' 0"$ " $34"$ " $2'$ " — " — " $22"$
 G' " to lower hatches, $4' 2" \times 2' 5"$ " $20"$ " " — " — " $20"$
 Q' " " $4' 2" \times 2' 5"$ " $32"$ " " — " — " $20"$
 N' extension of N°5 hatch to deck only $3' \times 14'$ " 33 " $3'$ hatches — N°5 including F & A.
 O' to store, $4' 0" \times 3' 6"$ Coaming $27"$ " $2 1/2"$ Barring $1"$ Fitted $1/8$ 2 Tarpanes. Cleats $23"$

Vessel examined in dry dock 10.31 & now examined afloat.

Displacement scale. $21' 3 1/2" - 6000$; $22' 2 1/2" - 6500$; $23' 1 1/2" - 7000$; $24' 1 1/2" - 8000$
 $25' 6" - 8300$; $25' - 10 1/2" - 8500$

Battening arrangements efficient for hatches on the freeboard deck within the main space

Builder's name and yard number Hamburg. Schiffst. Ges. Hamburg.

Names of sister ships —

Owners Com. Nacional de Navegacao.

Fee £ Received by me