

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>a shelter deck with tonnage opening aft</u>					Port of Survey <u>Oslo</u>
(Type of Superstructures.)					Date of Survey <u>29.7.32</u>
Ship's Name <u>M/V "Tijuca"</u>	Nationality and Port of Registry <u>Norwegian</u> <u>Tromsberg</u>	Official Number <u>5374</u>	Gross Tonnage <u>5374</u>	Date of Build <u>1926</u> <u>3</u>	Name of Surveyor <u>P. Aude</u>
Moulded Dimensions: Length <u>416'-8"</u> Breadth <u>54'-1 1/8"</u> Depth <u>30'-2"</u>					Particulars of Classification <u>100 A1</u>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>12308</u> tons					SS. N.Y.K. No. <u>1-30</u>
Coefficient of fineness for use with Tables <u>745</u>					<u>with freeboard</u>
Depth for Freeboard (D)			Depth correction		Round of Beam correction
Moulded depth <u>30.17</u>			(a) Where D is greater than Table depth (D-Table depth) R = $(30.21 - 27.78) \times 3$ = <u>+ 7.29"</u>		Moulded Breadth (B) <u>54.13</u>
Stringer plate <u>0.4</u>			(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{54.13 \times 12}{50} = 12.99$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>			If restricted by superstructures <u>✓</u>		Ship's Round of Beam = <u>13"</u>
Depth for Freeboard (D) = <u>30.21</u>					Difference <u>0.01 Excess</u>
					Restricted to
					Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{0.01}{4} \times 0.92 = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>36.17</u>	<u>36.17</u>	<u>8'-6"</u>		<u>36.17</u>	Standard Height of Superstructure <u>7.5 ft</u>
" overhang	<u>6.73</u>	<u>3.06</u>			<u>3.06</u>	" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>42.00</u>
" overhang						Percentage covered $\frac{S}{L} = 100\%$
Bridge enclosed						" " $\frac{S_1}{L} = 99.08\%$
" overhang aft						" " $\frac{E}{L} = 99.08\%$
" overhang forward	<u>369.75</u>	<u>369.75</u>	<u>8'-6"</u>		<u>369.75</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required)) <u>98.87%</u>
Forecastle enclosed						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
" overhang						Interpolation for bridge less than 2L (if required)
Trunk aft						Deduction = $42.00 \times 0.9887 = -41.52$
" forward	<u>4.62</u>	<u>3.84</u>	<u>8'-6"</u>		<u>3.84</u>	
Tonnage opening aft						
" " forward	<u>416.67</u>	<u>412.82</u>			<u>412.82</u>	
Total						

measured afloat

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>51.67</u>	1		<u>51.67</u>	<u>4.13</u>	<u>47.25</u>	1		<u>59.25</u>	Mean actual sheer aft = <u>Excess</u>
1/4 L from A.P.	<u>22.99</u>	4		<u>91.96</u>	<u>11 1/2</u>	<u>16.19</u>	4		<u>105.44</u>	Mean actual sheer forward = <u>Excess</u>
1/2 L "	<u>5.68</u>	2		<u>11.36</u>	<u>2</u>	<u>4.05</u>	2		<u>13.04</u>	Length of enclosed superstructure forward of amidships = <u>CS</u>
Amidships	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>	" " aft of " = <u>✓</u>
3/4 L from F.P.	<u>11.36</u>	2		<u>22.72</u>	<u>2 1/2</u>	<u>6.14</u>	2		<u>24.00</u>	
1/4 L "	<u>45.98</u>	4		<u>183.92</u>	<u>1'-10"</u>	<u>31.70</u>	4		<u>174.84</u>	
F.P.	<u>103.34</u>	1		<u>103.34</u>	<u>8'-5 1/2</u>	<u>102.25</u>	1		<u>114.25</u>	
Total	<u>465.03</u>			<u>464.97</u>					<u>490.78</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{25.81}{18} \left(\frac{75-50}{2} \right) = -0.36$

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.

Ft.
Depth to Freeboard Deck = 30.21
Summer freeboard = 3.82
Moulded draught (d) = 26.39

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $\frac{26.39}{4} = 6.6 = 168$ 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 lineDeduction = $\frac{\Delta}{40 T}$ inches
= $\frac{168}{40 \times 5374} = 6.6$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient $\frac{745-68}{136} = \frac{1425}{1360}$ Depth Correction
Deduction for superstructures
Sheer correction
Round of Beam correction
Correction for Thickness of Deck amidships
Other corrections, scantlings, etc.

+	-
7.29	-
-	41.52
-	36
-	-
-	-
7.29	41.88
41.88	-34.59

Summer Freeboard = 45.81

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

Tropical Fresh Water Line above Centre of Disc ...	<u>13.20</u>	<u>336</u>	Tropical Fresh Water Freeboard ...	<u>32.61</u>	<u>= 1.164 M</u>
Fresh Water Line " " ...	<u>6.60</u>	<u>= 168</u>	Fresh Water " " ...	<u>39.21</u>	<u>= .996 "</u>
Tropical Line " " ...	<u>6.60</u>	<u>= 168</u>	Tropical " " ...	<u>39.21</u>	<u>= .996 "</u>
Winter Line below " " ...	<u>6.60</u>	<u>= 168</u>	Winter " " ...	<u>52.41</u>	<u>= 1.332 "</u>
Winter North Atlantic Line " " ...	<u>✓</u>	<u>✓</u>	Winter North Atlantic " " ...	<u>✓</u>	<u>✓</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
On shelter deck			On upper deck			On poop	Hatch on	Hatch on	Hatch on	Upper on
Description of Hatchway	Nº 1	Nº 2	Nº 3	Nº 4	Nº 5	Nº 6	Nº 7	Nº 8	Nº 9	Nº 10
Dimensions of Hatchway	29' 2 1/2" x 18' 0"	32' 4 1/2" x 18' 0"	29' 7" x 18' 0"	29' 2 1/2" x 18' 0"	32' 4 1/2" x 18' 0"	29' 7" x 18' 0"	6' 0" x 18' 0"	4' 6" x 3' 1"	25' x 25'	28' x 28'
COAMINGS	Height above Deck	36"	Same as	10" Ba	10" Ba	10" Ba	15 1/2"	10"	10" x 40"	10" Ba
	Thickness	4 1/4"	Same as				4 1/2"	40"	40"	
	Sides	7 1/2" Ba	Nº 1							
	Stiffeners	2								
HATCH BEAMS	Number	5	5	5	5	5				
	Spacing	Equal sp	Equal sp	Equal sp	Equal sp	Equal sp				
	Scantling and Sketch	16" x 40"	Same as	18" x 38"	Same as	Same as				
	Bearing Surface	2 3/8"	2 3/8"	2 3/8"	3"	3"	3"			
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths									
	Scantling and Sketch									
HATCH COVERS	Material	wood	wood	wood	wood	wood	wood	wood	wood	wood
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	How fitted	f.a.	f.a.	f.a.	f.a.	f.a.	f.a.	f.a.	f.a.	f.a.
	Bearing Surface	3"	3"	3"	3 1/2"	3 1/2"	3"	1 1/2"	1 1/2"	1 3/8"
Spacing of Cleats	22" x 24"	22" x 24"	22" x 24"	21" x 24"	21" x 24"	21" x 24"	26" x 23"	22"	18"	24"
Number of Tarpaulins	3	3	3	2	2	2	3	2	2	2

Particulars of fiddle, funnel and ventilator coamings:— No fiddle openings (M/V)
Funnel and ventilator coamings on top of boat deck, 8 ft. above shelter deck, in good condition

Particulars of Flush Bunker Scuttles:— none

Particulars of Companionways:— none
1 steel skylight on poop, strongly constructed.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— Forecastle: one 13' x 3' x 32", one 11' x 3' x 32", two 23' x 4' x 40"
Fore deck: two derrick post vents 23". Two 23' x 3' x 40". Two derrick post vents 24"
Amidships: two 23' x 12' x 40" at aft end of saloon house. Two derrick post vents 23" x effluently supported
one 13 1/2" x 14 1/2" x 30 at aft end of saloon house.
After deck: two derrick post vents 22 1/2". Two 23' x 32' x 40"
Fore: two derrick post vents, 23". Two 11 1/2" x 2' x 34" - one 17" x 2' x 36" - one 23" x 3' x 38". Two 12' x 2' x 36"
Poop: two derrick post vents, 23". Two 11 1/2" x 2' x 34" - one 17" x 2' x 36" - one 23" x 3' x 38". Two 12' x 2' x 36"
one 17' x 2' x 32" one 12' x 2' x 32". all have means of closing.
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— Forecastle: one 3' x 16". Seven 4 1/2" x 12" one 3 1/4" x 17"
Fore deck: three 3 1/4" x 16". Amidships: six 3 1/4" x 14" - 17" P.S. - three 2 1/2" x 11" - 16" P.S.
Four 4" x 14 1/2" S.B. - two 4" x 14 1/2" Port.
After deck: two 3 1/4" x 15" - 16" P.S. Four 3 1/4" x 15". Two 4' x 15" P.S.
Poop. one 3' x 7". all have means of closing.

Particulars of Gangway Cargo and Coaling Ports:— none

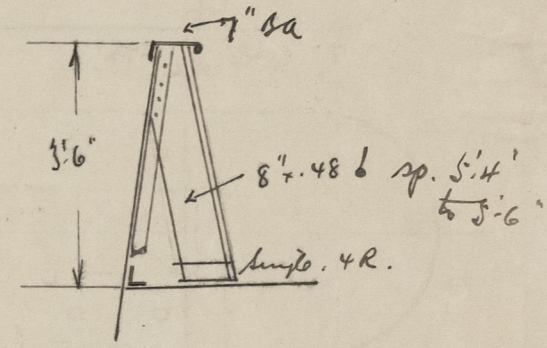
"TITUCA"

Particulars of Scuppers and Sanitary Discharge Pipes:— four scuppers, P.S. + one in T.O.P.S., no storm valve, closing by wood plugs only.
Sanitary discharge pipes: one from forecabin, Port side, led overboard above upper deck, fitted with storm valve
From amidships: 3 S.B. 4 port
off house: 3 Port + S.B.
poop: 2 P.S.

Particulars of Side Scuttles:— In poop forecabin, with hinged headlight
In fore peak S.B. side

Particulars of Guard Rails:— Forecabin: Stanchions 3' 5", sp. 3' 8" to 4' 3"; 3 rail
Poop: 3' 5", 4' 10"; 3 rail

Particulars of Gangways, Lifelines, etc.:— none



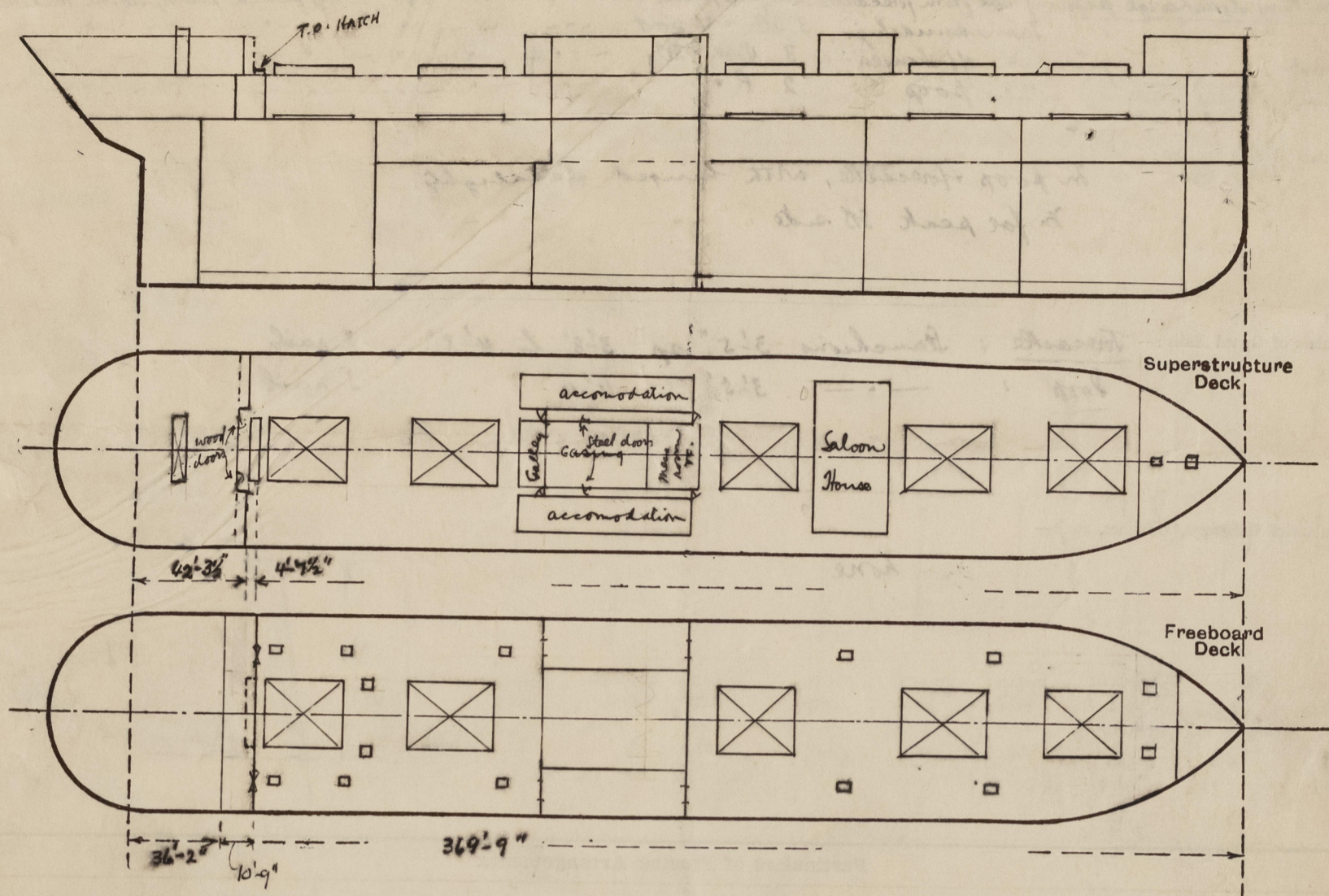
Particulars of Freeing Arrangements.						
	Length of Bulwark from amidships	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	167' 9"	3' 6"	3' 10 1/2" x 22 1/2"	4		
Forward Well	170' 5 1/2"	3' 6"	3' 10 1/2" x 22 1/2"	5		

State position of each freeing port:— After Well: 78' 7", 100' 1", 127' 2" x 15 1/2" from 26.
(P. and A. position and height above deck edge) Forward Well: 37' 4", 89', 116', 129' 8" x 15 1/2" x 10"
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 rail 11' above deck edge.
Additional area where sheer is less than standard. 1 freeing port P.S. in trapezoidal opening 27' x 25"; hinged shutter, 11' -

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	none	28"	4' x 2 1/2" x 34"	30"	bracket top bottom	none		
Bridge Bulkhead	19' x 36"	26"	3 1/2" x 3 1/2" x 34"	31' - 32"	-	8' 2" x 3"	none	8' 6"
Bridge, Forward Bulkhead								
Forecabin Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	24' x 32"	30"	5' x 3 1/2" x 38"	33"	bracket top, 2nd at top, all bolted at bottom	6' 0" x 2' 4 1/2"	14"	8'
(Exposed) Machinery Casings on Superstructure Decks	12' x 32"	30"	4' x 2 1/2" x 36"	33"	bracket at top nothing at bottom	none		8' 6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships								

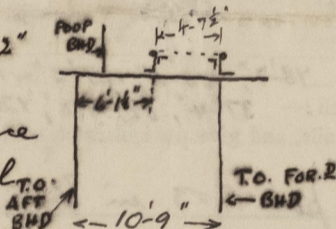
Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge Bulkhead	wood shifting boards in 2 1/4" riveted angles.
Bridge, Forward Bulkhead	
Forecabin Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
(Exposed) Machinery Casings on Superstructure Decks	1 steel door P.S., hinged
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:—

Tonnage opening hatch: 4'-7 1/2" x 18'-2"
 8" B.G. coaming
 2 1/2" coars. f.v.a., 3" bearing surface
 overhang aft 6'-1 1/2", forward nil



Present freeboards, assigned by
 N.V. 10.3.26.

F.W. 3'-6 1/2"
 T. 3'-7"
 S. 4'-1"
 W. 4'-7"
 B.d.T.S. 4'-1"

from top of upper dk. steel
 dk. at side.

As the vessel is leaving
 shortly an assignment
 by air mail is desired

The survey was held at
 the same time as a
 damage survey.
 The survey was held afloat.

Builder's name and yard number Ch. o. Atol. de St. Nazaire (Chantier de Normandie, Grand Quevilly, Rouen) (Yard No. E5)

Names of sister ships M/V "Tigre" (Oslo Rpt. 3843)

Owners Wica. Wilhelmssen, Oslo

Fee kr. 247.00

Received by me



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