

DISCLOSED SECTION NO. 246.23449
Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
15 DEC 1933
520

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *fore castle and long poop*
Port of Survey *Lusaka*
Date of Survey *14/11, 17/11, 7/12 1933*
Name of Surveyor *Z. Q. Olegovic*
Particulars of Classification *A1*
for Service in the Adriatic

Ship's Name <i>BOSNA</i>	Nationality and Port of Registry <i>Yugoslav. Split</i>	Official Number <i>✓</i>	Gross Tonnage <i>540</i>	Date of Build <i>1899</i>
Moulded Dimensions: Length <i>164</i> Breadth <i>26</i> Depth <i>12.46</i>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>316 903</i> tons				
Coefficient of fineness for use with Tables <i>70</i>				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>12.46</i>	(a) Where D is greater than Table depth (D-Table depth) R = $(12.46 - 10.73) \times 261$ = <i>+ 1.97"</i>	Moulded Breadth (B) <i>26.00</i>
Stringer plate <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>✓</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>6.24</i>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <i>✓</i>	If restricted by superstructures <i>✓</i>	Ship's Round of Beam = <i>6 1/8"</i>
Depth for Freeboard (D) = <i>12.49</i>		Difference <i>26" - 6 1/8" = 20 1/8"</i>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{26^2}{4} \times .3002 = -1.02"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<i>49.76</i>	<i>49.72</i>	<i>7.75</i>		<i>49.72</i>	Standard Height of Superstructure <i>6.00</i>
" overhang	<i>3.948</i>	<i>1.99</i>	<i>7.75</i>		<i>1.99</i>	" " R.Q.D. <i>✓</i>
R.Q.D. enclosed						Deduction for complete superstructure <i>22.40</i>
" overhang						Percentage covered $\frac{S}{L} = 83.04\%$
Bridge enclosed	<i>17.28</i>		<i>7.75</i>			" " $\frac{S_1}{L} = 69.98\%$
" overhang aft <i>4.3</i>	<i>13.089</i>	<i>9.64</i>	<i>7.75</i>		<i>9.64</i>	" " $\frac{E}{L} = 69.98\%$
" overhang forward <i>4.3</i>	<i>13.72</i>	<i>9.77</i>	<i>7.75</i>		<i>9.77</i>	Percentage from Table, Line A.
File enclosed	<i>43.66</i>	<i>43.66</i>	<i>7.83</i>		<i>43.66</i>	(corrected for absence of forecastle (if required)) <i>62.98%</i>
" overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = $22.40 \times .6298 = -14.11"$
" " forward <i>136.19</i>						
Total	<i>135.44</i>	<i>114.78</i>			<i>114.78</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<i>26.40</i>	1		<i>26.40</i>	<i>11.00</i>	<i>11.00</i>	1		<i>11.00</i>	Mean actual sheer aft = <i>Deficient</i>
1/4 L from A.P.	<i>11.75</i>	4		<i>47.00</i>	<i>5.53</i>	<i>5.53</i>	4		<i>22.12</i>	Mean actual sheer forward = <i>Deficient</i>
1/2 L "	<i>2.90</i>	2		<i>5.80</i>	<i>1.38</i>	<i>1.38</i>	2		<i>2.76</i>	Mean standard sheer forward
Amidships	<i>✓</i>	4		<i>✓</i>	<i>0.00</i>	<i>✓</i>	4		<i>✓</i>	Length of enclosed superstructure
3/4 L from F.P.	<i>5.81</i>	2		<i>11.62</i>	<i>5.92</i>	<i>5.92</i>	2		<i>11.84</i>	forward of amidships = <i>✓</i>
1/4 L "	<i>23.50</i>	4		<i>94.00</i>	<i>23.70</i>	<i>23.70</i>	4		<i>94.80</i>	" " aft of " = <i>✓</i>
F.P.	<i>52.80</i>	1		<i>52.80</i>	<i>46.00</i>	<i>46.00</i>	1		<i>46.00</i>	
Total	<i>237.6</i>			<i>237.62</i>					<i>188.52</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{49.10}{18} \left(.75 - \frac{.4152}{2} \right) = + .91"$

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.	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 = $\frac{\Delta}{40 T}$ inches <i>d/4 = 3"</i>	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{704.68}{1.36} = \frac{138}{1.36}$ Depth Correction <i>1.97</i> Deduction for superstructures <i>14.11</i> Sheer correction <i>.91</i> Round of Beam correction <i>.02</i> Correction for Thickness of Deck amidships <i>3.03</i> Other corrections, scantlings, etc. <i>and class</i>	<i>17.46</i> <i>17.72</i> <i>8.22</i> <i>9.50</i>
Depth to Freeboard Deck = <i>12.49</i> Summer freeboard = <i>.79</i> Moulded draught (d) = <i>11.70</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>2.92 = 3"</i> Addition for Winter North Atlantic Freeboard (if required) =			

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

Tropical Fresh Water Line above Centre of Disc	<i>3" = 76"</i>	Tropical Fresh Water Freeboard	<i>0-9 1/2" = 24 1/2"</i>
Fresh Water Line " "	<i>3" = 76"</i>	Fresh Water " "	<i>0-6 1/2" = 16 1/2"</i>
Tropical Line " "	<i>3" = 76"</i>	Tropical " "	<i>1-0 1/2" = 3 1/2"</i>
Winter Line below " "	<i>3" = 76"</i>	Winter " "	
Winter North Atlantic Line " "	<i>3" = 76"</i>	Winter North Atlantic " "	

21 DEC 1933

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MARKING FORM
24 FEB 1939
RECEIVED

MARKING FORM
14 MAY 1935
RECEIVED

MARKING FORM
23 JAN 1934
RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

		HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
		FREEBOARD DECK		SUPERSTRUCT. DECK									
Description of Hatchway	...	N ^o 1	N ^o 2	N ^o 2									
Dimensions of Hatchway	...	11-1 x 7-10	8-5 x 8-0	10-5 x 8-0									
COAMINGS	Height above Deck	24"	24"	24"									
	Thickness	.36	.36	.36									
	Sides	.36	.36	.36									
	Ends	.36	.36	.36									
	Stiffeners	✓	✓	✓									
	Brackets, Stays	✓	✓	✓									
HATCH BEAMS	Number	one	one	one									
	Spacing	6-1 1/2"	4-0"	5-2 1/2"									
	Scantling and Sketch	3x3x30" 35" 2 1/2 x 2 1/2 x 36"	none	none									
	Bearing Surface	2 3/4"	3"	3"									
FORE AND AFTERS	Number	one	one	one									
	Spacing	4-0"	4-0"	4-0"									
	Unsupported Lengths	6-1 1/2"	4-2 1/2"	5-2 1/2"									
	Scantling* and Sketch	6" 7 1/2"	6" 7 1/2"	6 1/2" 7"									
	Bearing Surface	3"	3"	3"									
HATCH COVERS	Material	white pine	white pine	white p.									
	Thickness	2 1/2"	2 1/2"	2 1/2"									
	How fitted	batt.	batt.	batt.									
	Bearing Surface	3"	3"	3"									
Spacing of Cleats	...	X 45"	X 45"	X 39"									
Number of Tarpaulins	...	3	3	2									
<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>on superstructure deck hatchway 2 lashing rings at sides. ✓</i></p>													

Particulars of fiddle, funnel and ventilator coamings:— *fiddle, funnel & ventilators efficient ✓*
Skylight casing steel & cores steel & windows, strongly constructed ✓
Stokehold covered by gratings & efficient steel hinged doors ✓

Particulars of Flush Bunker Scuttles:— *each side one, cast iron on freeboard deck, not otherwise secured. ✓*

Particulars of Companionways:— *1 teak companion 3-6 x 2-5 x 3-6" high on fore castle deck leading to enclosed fore castle, doors teak hinged 1 1/2" thick, 9" sill, manipulated from both sides ✓*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— *none ✓*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— *on freeboard deck 3 gasometer air pipes Tank N^o 2 & 3, diameter 2 1/4", opening 31" above deck, without any closing appliances ~~wat~~ plugs & chains remainder flush at deck with raised brass cover ✓*

Particulars of Gangway Cargo and Coaling Ports:— *see sketch ✓*



Particulars of Scuppers and Sanitary Discharge Pipes — 5 common scuppers diameter 3" without valves 6 3/4" under freeboard deck.
 port side 3 & starboard 1 W.C. discharge pipe diameter 4 1/2" with non return valves.

Particulars of Side Scuttles: *No side lights below freeboard deck* ✓
In fore castle space diameter 8 3/4" & after accommodations diameter 10" substantially constructed. ✓

Particulars of Guard Rails: — *Steel bulwark on freeboard deck in fore well 48" high efficiently constructed & supported.* ✓
Guard rail on bridge deck 3"-2" high, on fore castle 3"-6" high, 4 posts and stanchions spaced about 3"-11" apart.

Particulars of Gangways, Lifelines, etc.:

none
Lifelines fitted on both sides of ship in forward well.

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	9.5	48	25 1/2" x 16"	1	2.84 sq	
Forward Well	10.06	48	^{37" x 18"} 25 1/2" x 16"	1 1/3	8.6 2.84 sq	8.40
State position of each freeing port { After Well: — <i>from poop BH 5 1/2"</i> } <i>lower edge 7" above deck</i> (E. and A. position and height above deck edge) { Forward Well: — <i>from bridge fore BH 38"</i> } State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — <i>only stanchion</i>						
Additional area where sheer is less than standard.						

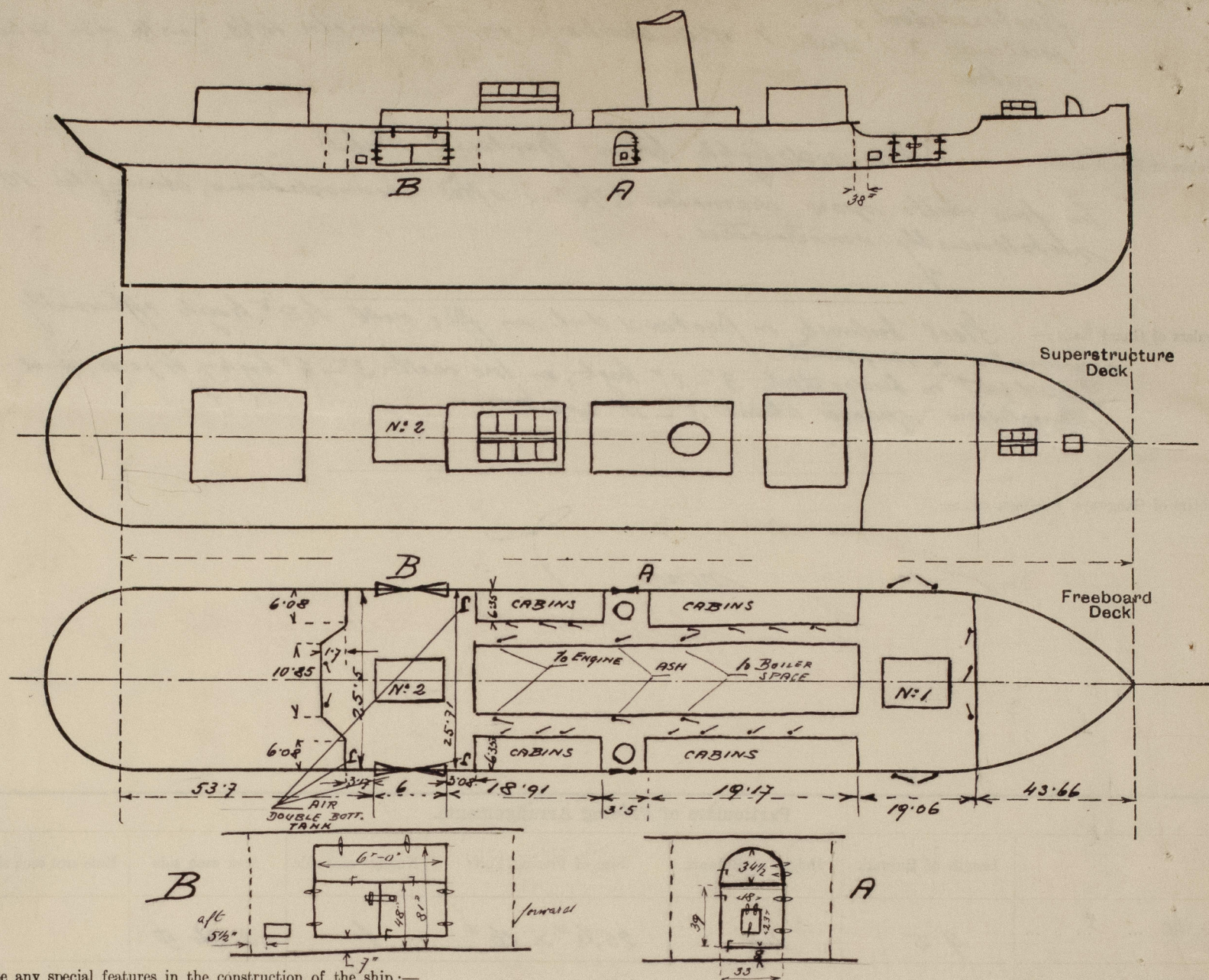
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	32	20	<i>wood sheathed</i>			59 x 23 1/2	15	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead <i>open</i> ...	32	20	<i>wood sheathed</i>			<i>only in after</i> <i>only 26 x 62</i>	18	
Bridge, Forward Bulkhead <i>open</i> ...			<i>not considered as part BH</i>					
Forecastle Bulkhead	32	20	<i>wood sheathed</i>			23 1/2 x 59	17 1/2	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	28	28	✓	✓	✓	none	✓	34"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	32	28	2 1/2 x 2 1/2 x 36	35"	<i>without end cam action</i>	26 x 62	18	
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	<i>2 common lead hinged doors 1 1/2 thick — manipulated from both sides</i>	
Raised Quarter Deck Bulkhead ...		
Bridge, After Bulkhead	<i>open</i>	
Bridge, Forward Bulkhead	<i>open</i>	
Forecastle Bulkhead	<i>3 common lead hinged doors 1 1/2 thick, manipulated from both sides</i>	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...		
Exposed Machinery Casings on Superstructure Decks	<i>complete casing</i>	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	<i>1 steel hinged door to engine space manipulated from both sides</i> <i>2 " " " to boiler space (ask & stokehold) manipulated only outside</i>	
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:—

$$\begin{array}{rcl} \text{Roof} & 50.53 & \checkmark \\ \text{Recess} & 12.09 \times 1.7 & \checkmark \\ & 25.5 & \checkmark \\ & - .81 & \checkmark \\ & 49.72 & \text{veqms.} \end{array} \quad \begin{array}{rcl} \text{Overhang} & = & .81 \\ & & 3.17 \\ & & 3.78 \end{array}$$

$$\begin{array}{rcl} \text{Bridge Forward} & 19.17 & \checkmark \\ & .37 & \checkmark \\ & = & 19.54 \\ \text{Aft} & 18.91 & \checkmark \\ & .38 & \checkmark \\ & = & 19.29 \end{array}$$

Builder's name and yard number Lloyd Austriaco

Names of sister ships ✓

Owners Jadrowska Pnielka D.D.

Fee £ Lines = 2200.- Received by me ✓
Expenses = 80.-



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