

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having FORECASTLE BRIDGE.

(Type of Superstructures.)

Ship's Name "AUGSBURG."	Nationality and Port of Registry GERMAN. BREMEN	Official Number ✓	Gross Tonnage 6512	Date of Build 1915 3rd Mo.
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Moulded Dimensions: Length 419.8 Breadth 53.16 Depth 39
Moulded displacement at moulded draught = 85 per cent. of moulded depth. 15870 tons
Coefficient of fineness for use with Tables .751

Port of Survey BREMEN
Date of Survey 16th MARCH 1933.
Name of Surveyor W. Meyer.
Particulars of Classification *100A1
SHELTER DH. WITH FREEBOARD.
56. Ann No. 3-327
56. Ann No. 1-31

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>39</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(39.05 - 27.99) 3</u>	Moulded Breadth (B) <u>53.16</u>
Stringer plate <u>.56</u>	<u>.18</u>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>12.76</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .23 \times \frac{31}{49.8} = .02$	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Ship's Round of Beam = <u>13.4</u>
Depth for Freeboard (D) = <u>39.05</u>	If restricted by superstructures	Difference <u>.24</u>
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.24^2}{4} (.8297) = -.05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed... ..	<u>37</u>	<u>37.0</u>	<u>7'6"</u>		<u>37.0</u>
" overhang aft					
" overhang forward					
F'cle enclosed	<u>34'6"</u>	<u>34.5</u>	<u>7'6"</u>		<u>34.5</u>
" overhang					
Trunk aft					
" forward					
" opening aft					
" " forward					
Total	<u>71.5</u>	<u>71.5</u>			<u>71.5</u>

Standard Height of Superstructure <u>7.5</u>	
" " R.Q.D.	
Deduction for complete superstructure <u>42.00</u>	
Percentage covered $\frac{S}{L} =$ <u>17.03%</u>	
" " $\frac{S_1}{L} =$ <u>17.03%</u>	
" " $\frac{E}{L} =$ <u>17.03%</u>	
Percentage from Table, Line A. <u>8.50</u>	<u>8.57</u>
(corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <u>10.78</u>	<u>10.8</u>
(corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	<u>8.5 - (2.28 x 37/83.96) = 4.50</u>
Deduction = <u>42.00 - 0.95 = -3.99</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>51.98</u>	1		<u>51.98</u>	<u>51.98</u>	<u>60.00</u>	1		<u>60.00</u>
$\frac{1}{8}L$ from A.P.	<u>23.13</u>	4		<u>92.52</u>	<u>25.28</u>	<u>25.28</u>	4		<u>101.12</u>
$\frac{2}{8}L$ "	<u>5.72</u>	2		<u>11.44</u>	<u>6.32</u>	<u>6.32</u>	2		<u>12.64</u>
Amidships		4		<u>0</u>			4		
$\frac{3}{8}L$ from F.P.	<u>11.44</u>	2		<u>22.88</u>	<u>13.63</u>	<u>13.63</u>	2		<u>27.26</u>
$\frac{4}{8}L$ "	<u>46.26</u>	4		<u>185.04</u>	<u>54.51</u>	<u>54.51</u>	4		<u>218.04</u>
F.P.	<u>103.96</u>	1		<u>103.96</u>	<u>120.00</u>	<u>120.00</u>	1		<u>120.00</u>
Total	<u>467.82</u>			<u>467.82</u>					<u>539.06</u>

Mean actual sheer aft = Even
Mean standard sheer aft =

Mean actual sheer forward = Even
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = -
" " aft of " = 0.21

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.24(75.085)}{18} = -2.63$$

If limited on account of midship superstructure. $\frac{0.21}{2.00} \times 2.63 = -.16$

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.

Ft.
Depth to Freeboard Deck = 39.05
Summer freeboard = 11.02
Moulded draught (d) = 28.03

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.00

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

= 7.00

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>33.18</u>	
Deduction for superstructures		<u>3.99</u>
Sheer correction		<u>.16</u>
Round of Beam correction		<u>.05</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc. <u>to a winter max draft of 27.54</u>	<u>21.47</u>	
Summer Freeboard = <u>132.25</u>	<u>54.65</u>	<u>4.20</u>

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

Tropical Fresh Water Line above Centre of Disc	<u>14' x 35.6"</u>
Fresh Water Line " "	<u>7' x 178</u>
Tropical Line " "	<u>7' x 178</u>
Winter Line below " "	<u>7' x 178</u>
Winter North Atlantic Line " "	

Tropical Fresh Water Freeboard	<u>9' 10 1/4"</u>	<u>3359</u>
Fresh Water " "	<u>10' 5 1/4"</u>	<u>3003</u>
Tropical " "	<u>10' 5 1/4"</u>	<u>3181</u>
Winter " "	<u>11' 7 1/4"</u>	<u>3537</u>
Winter North Atlantic " "		

"Augsburg."

Particulars of fiddley, funnel and ventilator coamings :—

FIDDLEY HEIGHT 7'6". THICKNESS OF PLATING .32, OF COAMING .48"
FUNNEL AND VENTILATORS ON TOP OF FIDDLEY FASTENED EFFICIENTLY BY RIVETED ANGLES.
hinged covers.

Particulars of Flush Bunker Scuttles:— *NONE.*

Particulars of Companionways :— *NONE.*

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

FRAME 14/18 P+5.5. 20" ϕ COAMING HEIGHT = 3'4" THICKNESS = 20"										FRAME 10/18 P+5.5. 28" ϕ COAMING HEIGHT = 4' THICKNESS = 40"									
"	57/38	"	"	"	"	"	"	"	"	"	13/5	"	"	"	"	"	"	"	"
"	41/48	"	"	"	"	"	"	"	"	"	149/50	"	"	"	"	"	"	"	"
"	40/41	"	"	"	"	"	"	"	"	"	150/51	"	"	"	"	"	"	"	"
"	60/61	"	"	"	"	"	"	"	"	"	151/55	"	"	"	"	"	"	"	"
"	74/75	"	"	"	"	"	"	"	"	"	174/75	"	"	"	"	"	"	"	"
"	93/99	"	"	"	"	"	"	"	"	ALL COAMINGS EFFICIENTLY SUPPORTED. wood covers frames provided for closing									
"	18" ϕ	"	"	"	"	"	"	"	"										

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

FRAME 3940 R+S. GOOSENECK R ² P. HEIGHT ABOVE DECK = 18"									
"	40/44	"	"	"	"	"	"	"	"
"	40/49	"	"	"	"	"	"	"	40"
"	127/28	"	"	"	"	"	"	"	12"
"	149/50	"	"	3"	"	"	"	"	20"
"	175/76	"	"	3"	"	"	"	"	184"

CAPABLE OF BEING CLOSED BY WOOD PLUGS AND CANVAS.

Particulars of ~~Gangway~~ Cargo and Coaling Ports:—

EFFICIENTLY CLOSED TOGETHER WITH TONNAGE OPENING SINCE 1919.

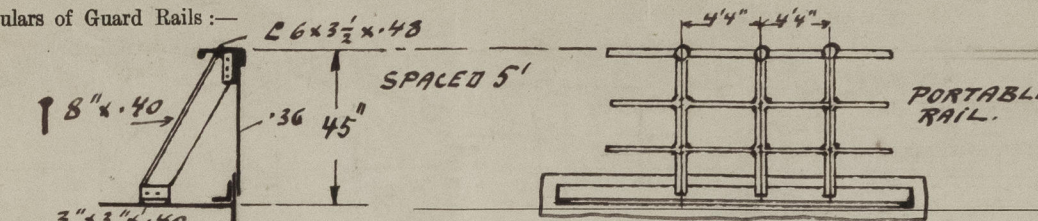
Particulars of Scuppers and Sanitary Discharge Pipes —

6 SCUPPERS ON BOTH SIDES OF UPPER DK. 3 1/2" DIA. ✓
1 SANITARY PIPE 4" DIA WITH STORMVALVE OTHER THAN CAST IRON BEHIND FRAME O ON BOTH SIDES
4' BELOW UPPER DK. - ON P.S. FRAME 78/79 + 5.5. FRAME 120/21 AND P.S. FRAME 175/76 ONE SANITARY
PIPE 4" DIA WITH STORMVALVE OTHER THAN CAST IRON 12' 6" BELOW UPPER DK. ✓

Particulars of Side Scuttles:

4 SIDE SCUTTLES ON BOTH SIDES IN CREW SPACE AFT 10" DIA 1'6" BELOW UPPER DK. WITH HINGED STEEL DEADLIGHTS.

Particulars of Guard Rails :—



Particulars of Gangways, Lifelines, etc. :—

EFFICIENT FITTINGS FOR RIGGING LIFELINES. MATERIAL FOR LIFE LINES ON BOARD.

Particulars of Freeing Arrangements. <i>SEE SKETCH BELOW.</i>						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well						
Forward Well						

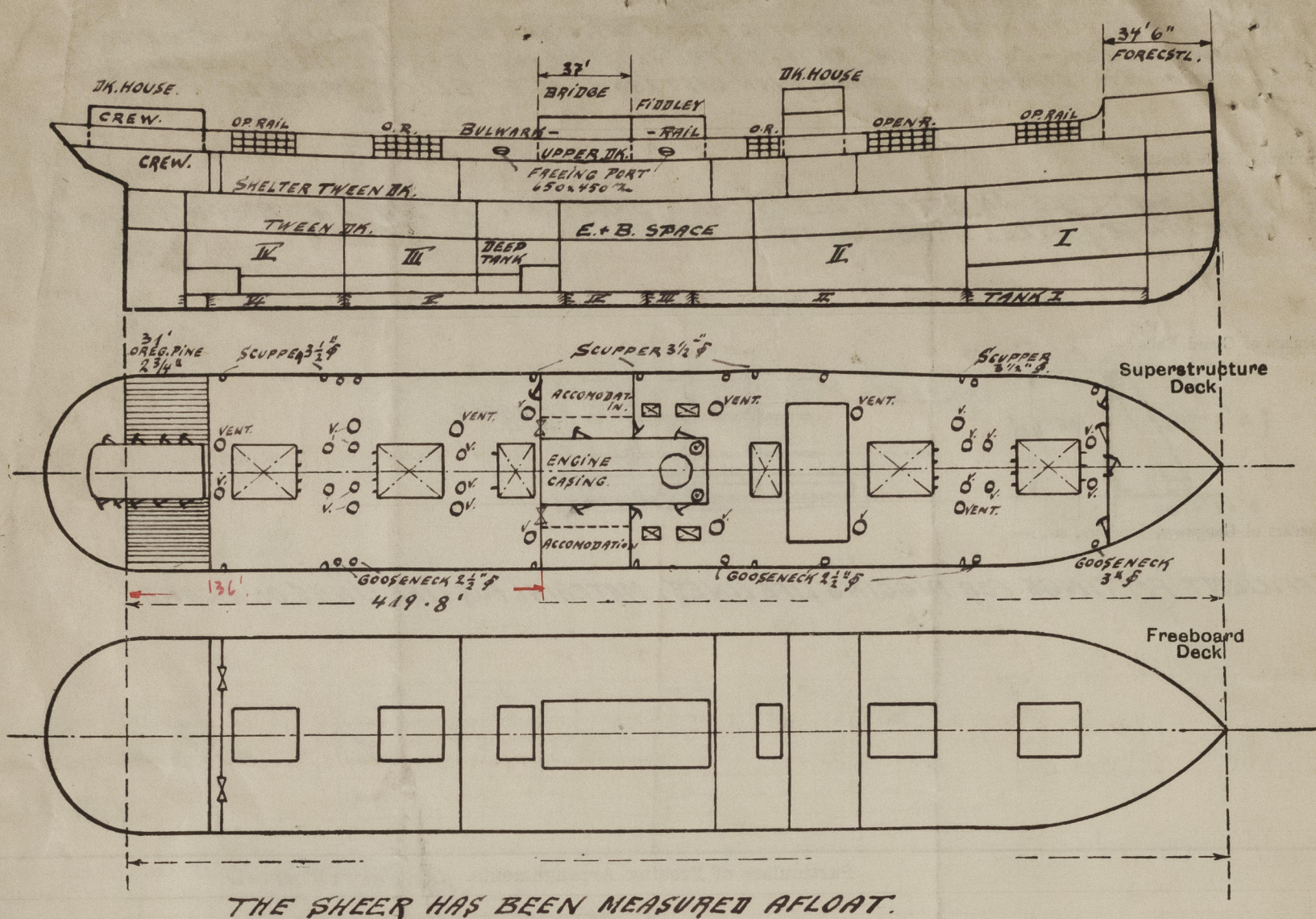
Situation of each freeing port } After Well :—
 (Position and height above deck edge) } Forward Well :—
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—
 Additional area where sheer is less than standard.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead		32	BULKHEADS AND PLATING FLANGED 4"	45"		7'3" x 5'6"		7'6"
Bridge, Forward Bulkhead	40	32	PLATING FLANGED 4"	22", 30", 40"		54" x 24" 54" x 24"	18"	7'6"
Forecastle Bulkhead	36	28	3 1/2 x 3 x 36"	30"		67" x 44"	23"	7'6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	48	32	4 3/4 x 3 x 48"	40"		54" x 24"	18"	7'6"
Exposed Machinery Casings on Super- structure Decks								
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	40	32	4 3/4 x 3 x 48" 4 x 3 x 40	40"	BARGE 16" x 12" x 32	54" x 24"	18"	7'6"
Deckhouses on Flush Deck Ships ...		32	3 x 3 1/2 x 3 1/2 x 48 3 1/2 x 3 1/2 x 3 1/2 x 48	32", 37"		56" x 24"	10"	7'6"

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

Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	TO BE MANIPULATED FROM BOTH SIDES.
Bridge, Forward Bulkhead	1 HINGED TEAKWOOD DOOR 13' 4". 2 OPENINGS TO BE CLOSED BY SHIFTING BOARDS 3 1/8" IN CHANNELS RIFETED TO BULKHEAD IN FULL HEIGHT.
Forecastle Bulkhead	2 HINGED STEEL DOORS .28" TO BE MANIPULATED FROM BOTH SIDES.
Exposed Machinery Casings on Fore- ward Raised Quarter Deck	3 " " " .28" / WOOD DOOR 2". ALL TO BE MANIPULATED FROM BOTH SIDES.
Exposed Machinery Casings on Super- structure Decks	
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	2 HINGED STEEL DOORS .28" TO BE MANIPULATED FROM BOTH SIDES.
Deckhouses on Flush Deck Ships	9 " TEAKWOOD " 2" " " " " " " " " "

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:—

Builder's name and yard number *NORTHUMBERLAND S.B. CO. LTD. YARD No 221.*

Names of sister ships

Owners *NORDDEUTSCHER LLOYD. BREMEN.*

Fee £ *17* : *0* : *0*
TRAV. *0* : *10* : *0*

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