

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

31138

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
 having 1 Poop, Bridge and Forecastle.
"NERVA"
 (Type of Superstructures.)

Ship's Name "GWENTGATE"
 to be renamed "NERVA"

Nationality and Port of Registry Norwegian
Bergen

Official Number 1600

Gross Tonnage 1924, 9 mo

Date of Build 1924, 9 mo

Name of Surveyor E. Brimblecombe.

Particulars of Classification +100 A1

Moulded Dimensions: Length 249.75 ✓ Breadth 39.5 ✓ Depth 19.86 ✓
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 3603 tons
 Coefficient of fineness for use with Tables .757

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>19.86</u>	(a) Where D is greater than Table depth (D-Table depth) R = $(19.89 - 16.65) \cdot 1.921$ = <u>+6.22"</u>	Moulded Breadth (B) <u>39.5</u> Standard Round of Beam = $\frac{B \times 12}{50} = 9.48"$ Ship's Round of Beam = <u>11"</u> Difference <u>Excess</u> <u>1.52"</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	Restricted to Correction = $\frac{\text{Diff}^*}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{1.52}{4} \times .6116 = -.23"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <u>✓</u>	
Depth for Freeboard (D) = <u>19.89</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>16.56</u> ✓	<u>16.56</u>	<u>7'-11"</u>	<u>✓</u>	<u>16.56</u>	Standard Height of Superstructure <u>6.00'</u>
" overhang	<u>✓</u>					" " R.Q.D. <u>✓</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>30.975"</u>
" overhang						Percentage covered $\frac{S}{L} = 39.04\%$
Bridge enclosed	<u>56.00</u> ✓	<u>56.00</u>	<u>7'-11"</u>	<u>✓</u>	<u>56.00</u>	" " $\frac{S_1}{L} = 38.84\%$
" overhang aft	<u>2.00</u> ✓	<u>1.50</u>			<u>1.50</u>	" " $\frac{E}{L} = 38.84\%$
" overhang forward <u>✓</u>						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
F'cle enclosed	<u>22.94</u> ✓	<u>22.94</u>	<u>7'-11"</u>	<u>✓</u>	<u>22.94</u>	Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <u>26.51%</u>
" overhang	<u>✓</u>					Interpolation for bridge less than 2L (if required)
Trunk aft						Deduction = <u>30.975</u> × <u>.2651</u> = <u>-8.21"</u>
" forward						
Tonnage opening aft						
" " forward						
Total	<u>97.50</u>	<u>97.00</u>			<u>97.00</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>34.97</u>	1		<u>34.97</u>	<u>40.50</u>	<u>40.50</u>	1		<u>40.50</u>	Mean actual sheer aft = <u>Excess</u> Mean standard sheer aft
$\frac{1}{2}$ L from A.P.	<u>15.56</u>	4		<u>62.24</u>	<u>17.38</u>	<u>17.38</u>	4		<u>69.52</u>	Mean actual sheer forward = <u>Excess</u> Mean standard sheer forward
$\frac{2}{3}$ L "	<u>3.84</u>	2		<u>7.68</u>	<u>4.33</u>	<u>4.33</u>	2		<u>8.66</u>	Length of enclosed superstructure forward of amidships = $\frac{27.815}{249.75} > .1L$
Amidships	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>	" " aft of " = $\frac{28.185}{249.75} > .1L$
$\frac{2}{3}$ L from F.P.	<u>7.69</u>	2		<u>15.38</u>	<u>8.07</u>	<u>8.07</u>	2		<u>16.14</u>	
$\frac{1}{2}$ L "	<u>31.13</u>	4		<u>124.52</u>	<u>32.39</u>	<u>32.39</u>	4		<u>129.56</u>	
F.P.	<u>69.95</u>	1		<u>69.95</u>	<u>72.00</u>	<u>72.00</u>	1		<u>72.00</u>	
Total				<u>314.74</u>					<u>336.38</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{21.64}{18} (.75 - .1952) = -.67"$$

If limited on account of midship superstructure. ✓If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.757 + .68}{1.36} = \frac{1.437}{1.36}$	<u>32.25</u> <u>34.08</u>
Depth to Freeboard Deck = <u>19.89</u>	$\Delta =$	Depth Correction	<u>6.22</u>
Summer freeboard = <u>2.60</u>	Tons per inch immersion at summer load water line	Deduction for superstructures	<u>8.21</u>
Moulded draught (d) = <u>17.29</u>	T =	Sheer correction	<u>.67</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{17.29}{4} = 4.32" = 4.4"$	Deduction = $\frac{\Delta}{40T}$ inches =	Round of Beam correction	<u>.23</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>✓</u>		Correction for Thickness of Deck amidships	<u>-</u>
		Other corrections, scantlings, etc.	<u>-</u>
		Summer Freeboard = <u>31.19</u>	

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

Existing freeboards	Tropical Fresh Water Line above Centre of Disc	<u>8.4"</u> = <u>209"</u>	Tropical Fresh Water Freeboard	<u>2'-6$\frac{3}{4}$"</u> = <u>781"</u>
recalculated by	Fresh Water Line " "	<u>5.4"</u> = <u>133"</u>	Fresh Water " "	<u>1'-10$\frac{1}{2}$"</u> = <u>572"</u>
more favourable than	Tropical Line " "	<u>3"</u> = <u>76"</u>	Tropical " "	<u>2'-1$\frac{1}{2}$"</u> = <u>648"</u>
those computed under	Winter Line below " "	<u>2.4"</u> = <u>63"</u>	Winter " "	<u>2'-3$\frac{3}{4}$"</u> = <u>705"</u>
the Convention.	Winter North Atlantic Line " "	<u>4.2"</u> = <u>114"</u>	Winter North Atlantic " "	<u>2'-9$\frac{1}{2}$"</u> = <u>844"</u>
				<u>2'-11$\frac{1}{4}$"</u> = <u>894"</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	Nº 1	Nº 2	Nº 3	Nº 4					
Dimensions of Hatchway	28'-0" x 25'-0" x 21'-0"	26'-0" x 25'-0"	28'-0" x 25'-0"	26'-0" x 25'-0" x 20'-0"					
COAMINGS	Height above Deck	30"	30"	30"	30"				
	Thickens	4"	4"	4"	4"				
	Stiffeners	7" x 3" x 40' Sides & A.E.	7" x 3" x 40' Sides & A.E.	7" x 3" x 40' Sides & A.E.	7" x 3" x 40' Sides & F.E.				
	Stays	2 1/4" dia. 2 each side	2 1/4" dia. 2 each side	2 1/4" dia. 2 each side	2 1/4" dia. 2 each side				
HATCH BEAMS	Number	5	5	5	5				
	Spacing	4'-8"	4'-4"	4'-8"	4'-4"				
	Scantling and Sketch	20" x 32	20" x 30	20" x 30	20" x 30				
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"				
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch		None						
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.				
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"				
	How fitted	F & A.	F & A.	F & A.	F & A.				
	Bearing Surface	3"	3"	3"	3"				
Spacing of Cleats	24"	24"	24"	24"					
Number of Tarpaulins	2	2	2	2					

*Are wood fore and afters steel shod at all bearing surfaces? ☒
 Are battens and wedges efficient and in good condition? ☒
 Are tarpaulins in good condition and in accordance with rule requirements? ☒
 Are lashings provided in accordance with rule requirements? ☒

Particulars of fiddle, funnel and ventilator coamings:—

In good condition.
 Engine room skylight of steel strongly constructed.
 Hinged steel storm covers over fiddle gratings.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

Two on Bridge Deck strongly constructed of steel, 6'-0" x 3'-6" x 6'-6" high, door 4'-11" x 2'-0", sill 12". Hinged wood panelled door, frame 1 3/8" thick, operated from both sides.

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

Forecastle dk. One to fore peak, 3'-0" x 9" dia. x 28"
 Fore Well. One to hold, 3'-0" x 16" dia. x 38"
 Bridge dk. One to hold, 2'-6" x 16" dia. x 38"
 After Well. Two to hold, 3'-0" x 16" dia. x 38"
 One to tunnel, 8'-0" x 6" dia. x 32" stayed to poop bulkhead

Wood plugs and canvas covers provided.

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

Fore Well. One from D.P., 29" x 4" dia.
 Bridge Deck. Six from S.B., 23" x 3" "
 After Well. Two from S.B., 21" x 3" "

Heights to mouths of goosenecks.
 Wood plugs provided.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers. One each side from bridge space led through sides below floor deck with storm valves.
 Sanitary discharges. Three port & one stbd led through sides below floor deck with storm valves.

Particulars of Side Scuttles:—

In poop & bridge sides of substantial construction & fitted with hinged deadlights.
 Those in bridge from bulkhead not fitted with deadlights.

Particulars of Guard Rails:—

Around poop, bridge & forecastle decks 3'-3" high, 2-rails, stanchions 4'-0" to 4'-6" apart.

Particulars of Gangways, Lifelines, etc.:—

Provision made for rigging lifelines each side of each 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	80.13	3'-4"	3'-6" x 1'-7"	3	15.0 sq. ft.	
Forward Well	74.12	3'-4"	3'-6" x 1'-7"	3	15.0 sq. ft.	

State position of each freeing port ... After Well:— Centres 17'-0", 42'-0" & 64'-9" abaft Bridge Bulkhead. } 15" above deck.
 (F. and A. position and height above deck edge) } Forward Well:— Centres 13'-0", 31'-0" & 51'-9" forward of Bridge Bulkhead }
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Two fore & aft bars each port. No shutters.

Additional area where sheer is less than standard.

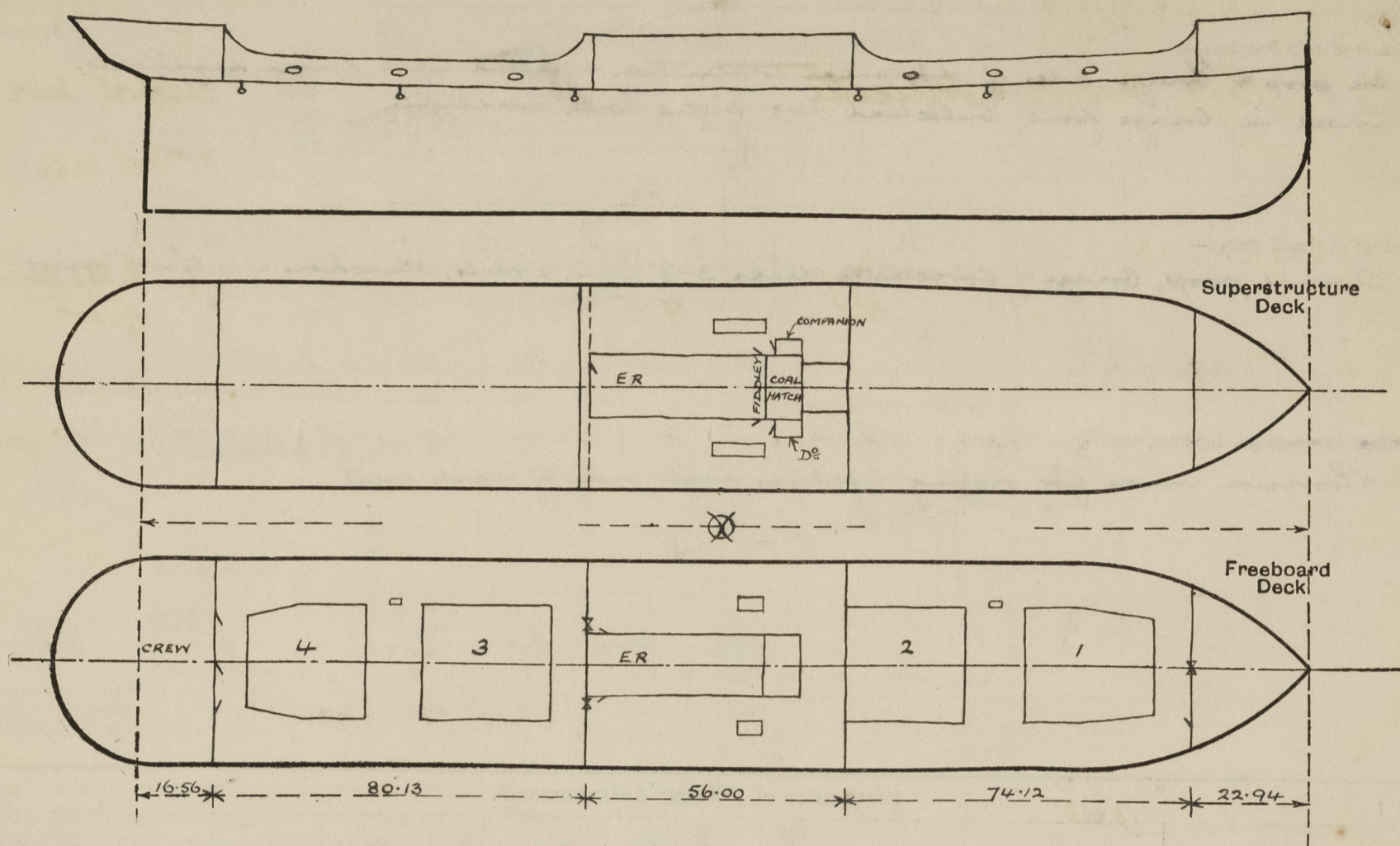
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	.38	5 1/2" x 3 x 34	29"	Port to top of bottom	(3) 5'-5" x 2'-0"	19"	
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	18" x .38	.32	4 x 3 x 34	30"	Continued to top of E & B casing with brackets at top	(2) 6'-0" x 3'-5"	18"	
Bridge, Forward Bulkhead	✓	.38	Living	30"	Living	None		
Forecastle Bulkhead	✓	.26	3" flanges of plates	36"	None	(casing) 5'-6" x 3'-0" (plate) 5'-5" x 2'-0"	18" 15"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	18" x .38	.34	4 x 3 x 36	36"	None	(2 to P.D.) 4'-6" x 2'-0" (1 to E.R.) 4'-7" x 1'-10"	18" 19"	6'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18" x .32	.30	4 x 3 x 36	36"	None	(2 to E.R.) 5'-6" x 2'-0"	18"	
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	Hinged solid wood doors, operated from both sides.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	Portable steel plates secured by Locke bolts.
Bridge, Forward Bulkhead	No openings.
Forecastle Bulkhead	One opening 2 1/2" storm boards full height in riveted channels.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	One opening hinged solid wood door, operated from both sides. (Lamp room)
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Two fiddle, hinged steel doors operated from both sides. Two engine room, hinged panelled wood door, operated from both sides.
Deckhouses on Flush Deck Ships	Hinged wood panelled doors, operated from both sides.

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:—

Small hatches.

Fiddle hatch 7'-10" x 14'-0", coaming 9 1/2" x 38", 2 1/2" covers fore & aft on 2 1/2" rest bars, cleats 33", 2 tarpaulins. No shifting beam.
 Bridge deck, 2 bunker hatches 11'-5" x 2'-9", coamings 18" x 38", 2 1/2" covers athwart, on 3 1/2" rests, cleats 24", 2 tarpaulins.
 Bridge space, 2 " 5'-6" x 3'-0", " 9' x 3" x 40 B.A., 2 1/2" covers, " 3" " " 26", 1 tarpaulin.
 One escape hatch in each well from hold, 3'-9" x 2'-0", coamings 19" x 34", 2 1/2" covers athwart, on 2 1/2" rests, cleats 15", 2 tarpaulins.

From D.W. & Disp. Scale:—

Draught	Tons Disp. S.W.
17'-6"	3720
17'-0"	3590
16'-0"	3360
15'-0"	3130
14'-0"	2900

Timber freeboards

The double bottom tanks are not subdivided longitudinally. It should be noted that there are only three double bottom tanks in this vessel, one forward, one under E+B, & one aft. The bulwarks are 3'-4" high, 25 thick, rail bar 6" x 3" x 40 B.A., stays 6" x 3" x 40 B.A. spaced 6'-0" apart (in way of beams) and attached to deck by single 6" x 6" angle lugs. No eyeplates for lashings or sockets for uprights are provided.

Forwarded in compliance with Secretary's letter "F" dated 12th October, 1935.
 Vessel measured while lying afloat.
 The name & Port of Registry have not yet been changed.
 The original Rpt C/1 is returned herewith.

Builder's name and yard number.....

Names of sister ships.....

Owners Rederiaktieselskapet Nerva. Manager—Hilmar Rekesten, Fjøsanger, Bergen.

Fee £ 11-0-0

Received by me.....



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