

No. 8856.

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **32258**
(For London Office only.)

24 JUN 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Poop, Bridge & Forecastle.

(Type of Superstructures.)

Ship's Name 1/2 GERTRUD BRATT.
(N^o 21790 in Reg. Book)

Nationality and Port of Registry Swedish.
Gothenburg.

Official Number 7317.

Gross Tonnage 1510

Date of Build 1927-2.

Port of Survey Gothenburg.

Date of Survey 21st June 1932.

Name of Surveyor H. Jeth Lydersen.

Particulars of Classification 100. A. I.

Moulded Dimensions: Length 256'0" Breadth 38'2" Depth 18'9 3/4"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 3479 tons

Coefficient of fineness for use with Tables .780

Depth for Freeboard (D) 18.81

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R = (18.85 - 17.07) 1.969 = +3.51
(b) Where D is less than Table depth (if allowed)
(Table depth - D) R =
If restricted by superstructures

Round of Beam correction
Moulded Breadth (B) 38'16"
Standard Round of Beam = $\frac{B \times 12}{50} = \frac{457.92}{50} = 9.16$
Ship's Round of Beam = 10"
Difference .84
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times (1 - \frac{S_1}{L}) = \frac{.84^2}{4} \times (1 - \frac{44.22}{115.57}) = -.12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	19.25'	19.25	7' 1 1/2"		19.25
" overhang50'	.25			.25
R.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	64.44	64.44	7' 1 1/2"		64.44
" overhang aft ...	4.80	3.60			3.60
" overhang forward25	.12			.12
Forecastle enclosed ...	25.66	25.19	7' 1 1/2"		25.19
" overhang73'	.36			.36
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward ...	✓				
Total ...	115.57	113.21			113.21

Standard Height of Superstructure 6.06

" " R.Q.D. 31.6

Deduction for complete superstructure 31.6

Percentage covered $\frac{S}{L} = \frac{45.15}{115.57} = .39$

" " $\frac{S_1}{L} = \frac{44.22}{115.57} = .38$

" " $\frac{E}{L} = \frac{44.22}{115.57} = .38$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) ✓

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) 31.09 ✓

Interpolation for bridge less than 2L (if required)

Deduction = 31.6 + 31.09 = -9.83 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
... ..	35.60	1		35.60	37.25	35.60	1		35.60
from A.P. ...	15.84	4		63.36	15.75	15.84	4		63.36
" ...	3.92	2		7.84	3.75	3.92	2		7.84
amidships ...		4			0		4		
from F.P. ...	7.83	2		15.66	5.75	5.75	2		11.50
" ...	31.68	4		126.72	28.75	28.75	4		115.00
" ...	71.20	1		71.20	83.25	83.25	1		83.25
Total ...				320.38					316.55

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{3.83}{18} = .213$
 $(.75 - \frac{S}{2L}) = \frac{.75 - \frac{115.57}{2 \times 115.57}}{18} = \frac{.75 - .25}{18} = .028$
 If limited on account of midship superstructure. 5243

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 = 18.85
 Summer freeboard = 2.47
 Moulded draught (d) = 16.38

Correction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.09 ✓
 Addition for Winter North Atlantic Freeboard (if required) = + 2"

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
 $=$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{78 + 68}{1.36} = \frac{146}{1.36}$

Depth Correction ... 3.51 ✓
 Deduction for superstructures ... 9.83 ✓
 Sheer correction11 ✓
 Round of Beam correction12 ✓
 Correction for Thickness of Deck amidships ...
 Other corrections, scantlings, etc. ...

Summer Freeboard 29.64 ✓
29.64 ✓

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

Tropical Fresh Water Line above Centre of Disc ...
 Fresh Water Line " " ...
 Tropical Line " " ...
 Winter Line below " " ... 4.09 ✓
 Winter North Atlantic Line " " ... 6.09 ✓

Tropical Fresh Water Freeboard ...
 Fresh Water " " ...
 Tropical " " ...
 Winter " " ...
 Winter North Atlantic " " ...

Lloyd's Register

MARKING FORM

RECEIVED 2 AUG 1932

WS48-0190.1 1/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Freeboard Deck									
Description of Hatchway	N ^o 1, 2, 4	N ^o 3	Circle	with bridge	with bridge	Hatch on bridge deck	Hatch on poop	Hatch on fiddley deck	
Dimensions of Hatchway	23' x 18'	26' x 18'	30' x 30'	16' 8" x 29'	7' 4" x 18'	3' 3 1/2" x 16' 4"	26' 1/2" x 23 1/2"	3' 11" x 12' 2"	
COAMINGS	Height above Deck	48"	18 1/2"	9"	9"	27"	15"	12"	
	Thickness	4 1/4"	30"	46"	48"	40"	25"	36"	
	Sides	4 1/4"	30"	46"	48"	40"	25"	36"	
	Stiffeners	5' 7" x 3" x 40"	30"	46"	48"	40"	25"	36"	
	Brackets, Stays	2 off	2 off	✓	✓	✓	✓	✓	
HATCH BEAMS	Number	3	4	None	Deck beams carried through	None	None	None	
	Spacing	5' 9"	ab. 5' 4"	None	Deck beams carried through	None	None	None	
	Scantling and Sketch	4" x 3" x 46"	18" x 36"	filled.	filled.	filled.	filled.	filled.	
	Angles	4" x 3" x 46"	18" x 36"	filled.	filled.	filled.	filled.	filled.	
	Web	18" x 36"	filled.	filled.	filled.	filled.	filled.	filled.	
FORE AND AFTERS	Number	3	4	None	Deck beams carried through	None	None	None	
	Spacing	5' 9"	ab. 5' 4"	None	Deck beams carried through	None	None	None	
	Unsupported Lengths	4" x 3" x 46"	18" x 36"	filled.	filled.	filled.	filled.	filled.	
	Scantling and Sketch	4" x 3" x 46"	18" x 36"	filled.	filled.	filled.	filled.	filled.	
	Bearing Surface	3"	3"	filled.	filled.	filled.	filled.	filled.	
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Steel	Wood	
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	20"	2 1/2"	
	How fitted	F. & A.	Ab. hush	Ab. hush	F. & A.	F. & A.	Hinged	F. & A.	
	Bearing Surface	3"	2"	3"	3"	2"	1"	2 1/4"	
	Spacing of Cleats	24"	24"	27"	25"	24"	18"	27"	
Number of Tarpaulins	2	2	1	4	2	1	1	1	
	Are wood fore and afters steel shod at all bearing surfaces?	None fitted.	yes!	yes!	yes!	yes!	yes!	yes!	
Particulars of fiddley, funnel and ventilator coamings	Are bunnings efficient and in good condition?	yes!	yes!	yes!	yes!	yes!	yes!	yes!	
	Are tarpaulins in good condition and in accordance with rule requirements?	yes!	yes!	yes!	yes!	yes!	yes!	yes!	
	Are lashings provided in accordance with rule requirements?	yes!	yes!	yes!	yes!	yes!	yes!	yes!	
	Are lashings provided in accordance with rule requirements?	yes!	yes!	yes!	yes!	yes!	yes!	yes!	

Particulars of fiddley, funnel and ventilator coamings

Hinged steel covers fitted for all fiddley top openings.
Vents to engine spaces and funnel on top of fiddley casing in good condition.

Particulars of Flush Bunker Scuttles

1 off pos on bridge deck, 16" diam. of cast material & to close with strongback on underside, manip. from bridge deck.

Particulars of Companionways

Access to crew's quarter through steel house aft having steel door 4' 8" x 1' 11" capable of being manipulated from both sides and with a sill 12" above wood deck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks

Fide. 1 off 16" diam 35" x 40" coaming. } Wood plugs & canvas covers.
Fore well. 1 " 16" " 7' 0" x 40" " } supplied for all vents.
After well. 2 " 16" " 7' 0" x 40" "

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

Height of openings above deck 29" to 30". Canvas covers supplied for all air pipes.

Particulars of Gangway Cargo and Coaling Ports

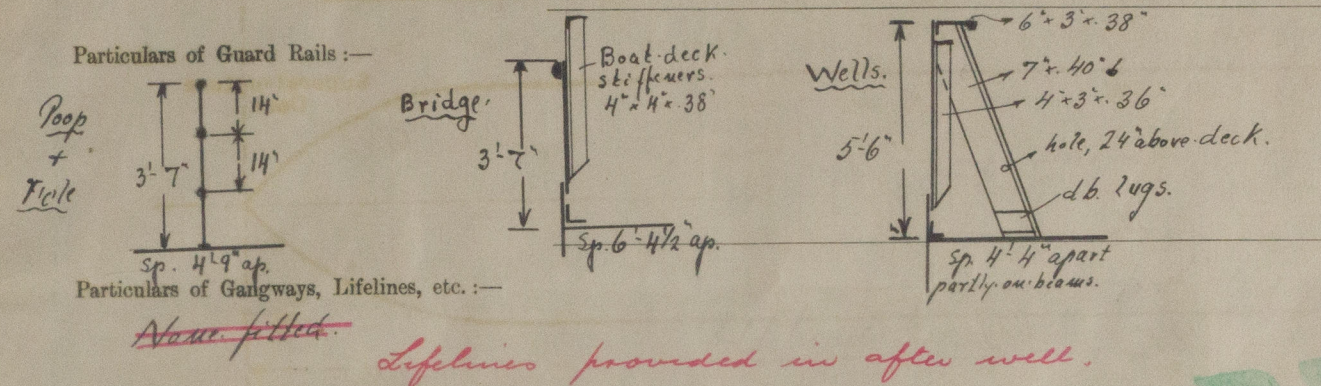
None fitted.

Particulars of Scuppers and Sanitary Discharge Pipes

No scuppers below freeboard deck. Sanitary Discharge pipes are fitted with N.R. Valves.

Particulars of Side Scuttles

All side lights through ship's sides are fitted with hinged, perm. attached deadlights.



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	7' 11"	5' 6"	38" x 20"	3	15.75 sq ft	14.4 sq ft
Forward Well	68' 6"	5' 6"	38" x 20"	3	15.75 sq ft	13.7 sq ft

State position of each freeing port (F. and A. position and height above deck edge):
 After Well: 5' 4" bridge 9' 10" bridge 8' 3' 3" 5' 7' 10" sill 13"
 Forward Well: 3' 3" 5' 7' 10" sill 13"
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: Hinged plate shutter & one horizontal bar.

Additional area where sheer is less than standard.

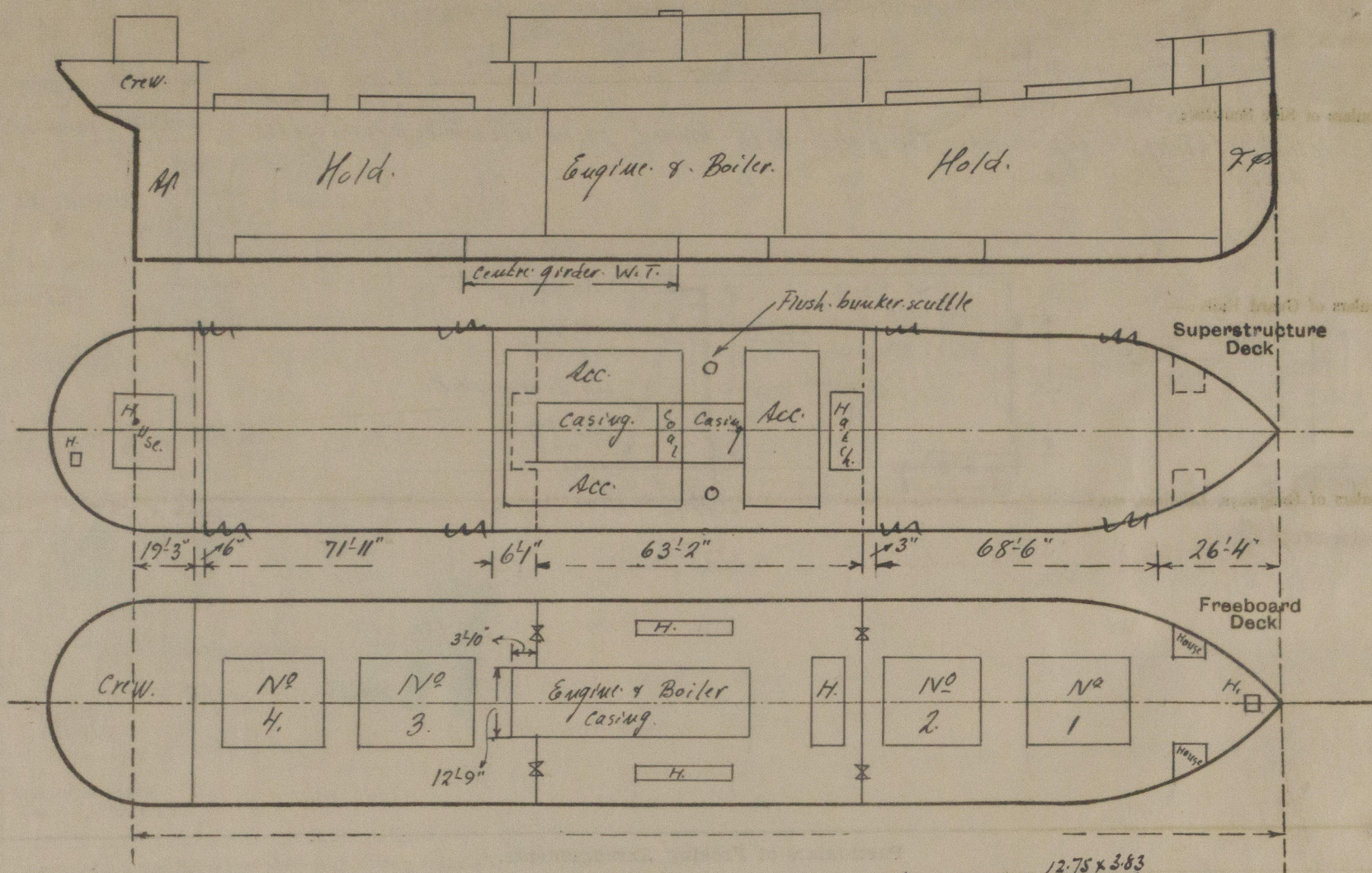
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	Vert. pl.	30"	not accessible - wood lining			None	✓	7' 1 1/2"
Raised Quarter Deck Bulkhead	✓							
Bridge, After Bulkhead	Vert. pl.	32"	not accessible - coal			6' 9" x 3' 0"	None	7' 1 1/2"
Bridge, Forward Bulkhead	14" x 38"	36"	7 1/2" x 3" x 48"	28 1/2"	lugged top & bolt	5' x 3' 0 1/2"	15"	7' 1 1/2"
Forecastle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Deck	Vert. pl.	30"	3" x 2 1/2" x 30"	34"	top takes b. bar. Bolt. None	None	✓	7' 1 1/2"
Exposed Machinery Casings on Superstructure Decks	12" x 34"	30"	3" x 2 1/2" x 30"	30"	top. None Carried below deck	4' 8" x 1' 9 1/2"	19 1/2"	7' 1 1/2"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	15" x 30"	30"	3" x 2 1/2" x 30"	30"	carried above & below deck.	None	✓	7' 1 1/2"
Deckhouses on Flush Deck Ships	✓							

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

Poop Bulkhead	No openings.
Raised Quarter Deck Bulkhead	✓
Bridge, After Bulkhead	hoose steel plate fitted with hook bolts. sp. 11" apart. Manip. from outside only.
Bridge, Forward Bulkhead	Hinged steel doors fitted with bolts through bhd. & door sp. 14" apart. Manip. from outside only.
Forecastle Bulkhead	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Deck	No opening.
Exposed Machinery Casings on Superstructure Decks	Hinged steel door capable of being manip. from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	No openings.
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:—



No sheathing on freeboard deck in way of marking.
State any special features in the construction of the ship:—

Timber Deck Cargo Freeboards are requested.

Poop is fitted.

Longitudinal Subdivision of D.B. tanks as shown on sketch above.

Bulwarks:— Please see "Guard Rails" page 3 of report.

Fittings for Uprights:— After well:— $\frac{1}{2}$ "Angles: 10" x 3 1/2" x 3 1/2" x 36" spaced ^{not more than 10 ft} 10' 6" to 11' 3" apart centre to centre.
Forward well:— ~~Particulars could not be ascertained owing to deck cargo~~

Eye plates for lashings. Hole to take shackle is made in bulwark staunches, 24" above deck.

Steering lead:— runs along hatch No. 3 & 4 & is protected by perm. attached steel casing.

Steering gear:— (Hand) in efficient condition on poop.

This vessel was surveyed afloat whilst loading.

P.S. Tons per inch immersion
at a draft of 16' 6" = 1980.
" " " 17' 0" = 1984.
" " " 17' 6" = 1992.

Builder's name and yard number Kockums Mek. Værk., Malmö. Yard No 151.

Names of sister ships

Owners

Ångf. Aktiebol. Östersjön (A. Bratt & Co., Mgr.) Gothenburg.

Fee ¥ Kr. 170.00

Received by me



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