

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 34728
(For London Office only.)

27 AUG 1935

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Complete superstructure with tonnage opening aft.* Port of Survey *Aalborg*

ANNITA (Type of Superstructures.) Date of Survey *while building*

Ship's Name *"Ragna Gorthon"* Nationality and Port of Registry *Sweden HELSINGBORG* Official Number *8011* Gross Tonnage *1862* Date of Build *1935* Name of Surveyor *W. J. Juel*

Moulded Dimensions: Length *281'6"* Breadth *43'6"* Depth *19'8"* Particulars of Classification *+100 A1 with freeboard*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *4281* tons

Coefficient of fineness for use with Tables *.74.732*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	19.67	(a) Where D is greater than Table depth (D - Table depth) R = $(19.70 - 18.76) \times 2.166 = +2.04$		Moulded Breadth (B)	43.6
Stringer plate	.34	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	10.44
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures		Ship's Round of Beam	10.78
Depth for Freeboard (D) =	19.70			Difference	.43
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.43}{4} \times .009 = \text{Nil}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	22.79	22.79			22.79
" overhang	23.6				
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Forecastle enclosed	252.8	252.71			252.71
" overhang aft	1.11	1.47			1.47
Trunk aft					
forward					
Tonnage opening aft	6.0	1.97			1.97
forward					
Total	281.50	278.94			278.94

Standard Height of Superstructure	6.315
" " R.Q.D.	
Deduction for complete superstructure	34.10
Percentage covered $\frac{S}{L} =$	100.00
" " $\frac{S_1}{L} =$	99.10
" " $\frac{E}{L} =$	99.10
Percentage from Table, Line A.	98.89
(corrected for absence of fore-castle (if required))	
Percentage from Table, Line B.	
(corrected for absence of fore-castle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction =	$34.10 \times 98.89 = -33.72$

Second deck parallel to keel from frame No. 12 to stem see sketch on page 4.

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	38.15	1	38.15	38.2	58.42	1	58.42
$\frac{1}{2}$ L from A.P.	16.975	4	67.90	16.97	26.00	4	104.00
$\frac{2}{3}$ L " "	4.195	2	8.39	4.23	6.43	2	12.86
Amidships	-	4	-	0	-	4	-
$\frac{2}{3}$ L from F.P.	8.39	2	16.78	8.46	10.63	2	21.26
$\frac{1}{2}$ L " "	33.95	4	135.80	33.94	42.99	4	171.96
F.P.	76.30	1	76.30	76.40	46.62	1	46.62
Total			343.32				465.12

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 = *C.S.S.*
" " aft of " =

(For initial sheer forward see p. 4.)

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{147.22 - 121.80}{18} \times 2.5 = -169.204$

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.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 19.70

Summer freeboard = 0.6057

Moulded draught (d) = 19.1013

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4.78 = 121 mm

Addition for Winter North Atlantic Freeboard (if required) = 171 mm

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

$d/4 = 121$ mm

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{732+68}{1.36} = \frac{1.412}{1.36}$

Depth Correction ... 2.04

Deduction for superstructures ... 33.72

Sheer correction ... 1.69

Round of Beam correction ... 2.04

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

39.04

40.53

+

-

2.04

33.72

1.69

2.04

-

-

2.04

35.41

-33.37.72

Summer Freeboard = 7.16 = 182 mm

6.81 = 173 mm

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

Tropical Fresh Water Line above Centre of Disc	1.142
Fresh Water Line	1.121
Tropical Line	1.121
Winter Line below	1.121
Winter North Atlantic Line	1.171

Tropical Fresh Water Freeboard	31
Fresh Water	52
Tropical	152
Winter	294
Winter North Atlantic	344

11 OCT 1935

5m, 3.32

MARKING FORM

21 MAY 1940

RECEIVED

MARKING FORM

9 SEP 1935

005187-005193-0377 1/2

ANNITA

Fiddley plated over .26 thick, strong and
 efficient construction.
 2 Vents to boiler room 27½" diam. x .40 + 11'-0" high efficiently
 2 " " engine 18" " x .40 + 11'-0" " " protected.
 Engine room skylight of steel riveted to casing top.

none

Particulars of Companionways :- Strongly constructed of steel, steel door 47" 30" 25"
Capable of manipulation from both sides. Sill 26"

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

2 vents. to N:1 hold at 22" diam. x. 13'3 Coamings (Pamson ports with outrigger)
2 " " N:1 " at aft end 22" diam. x. 60 x 10'9 Coamings
2 " " N:2 " 22" diam. x. 52 x 13'3 Coamings (Pamson ports with outrigger)
2 " " N:2 " at aft end 18" diam. x. 40 x 7'0 Coamings

All ventilators efficiently protected or stayed. Flanged plate covers with tarpaulins to all vent. Coamings. 2 vents. amidships 10" diam. x. 40 x 36" coaming
1 " at aft end 10" x 32 x 36"

Particulars of Air Pipes in exposed positions of foreboard, raised quarter, or superstructure decks:—
 Air pipe on forecath deck 2 1/2 diam. opening 3'6" above deck.
 All air pipes on superstructure deck 2 1/2" diam. openings 3'6" above deck.
 Wood plings and canvas covers supplied.

None

Particulars of Side Scuttles:—
 fitted above freeboard deck and fitted with efficient inside deadlights.
 (hinged) ✓

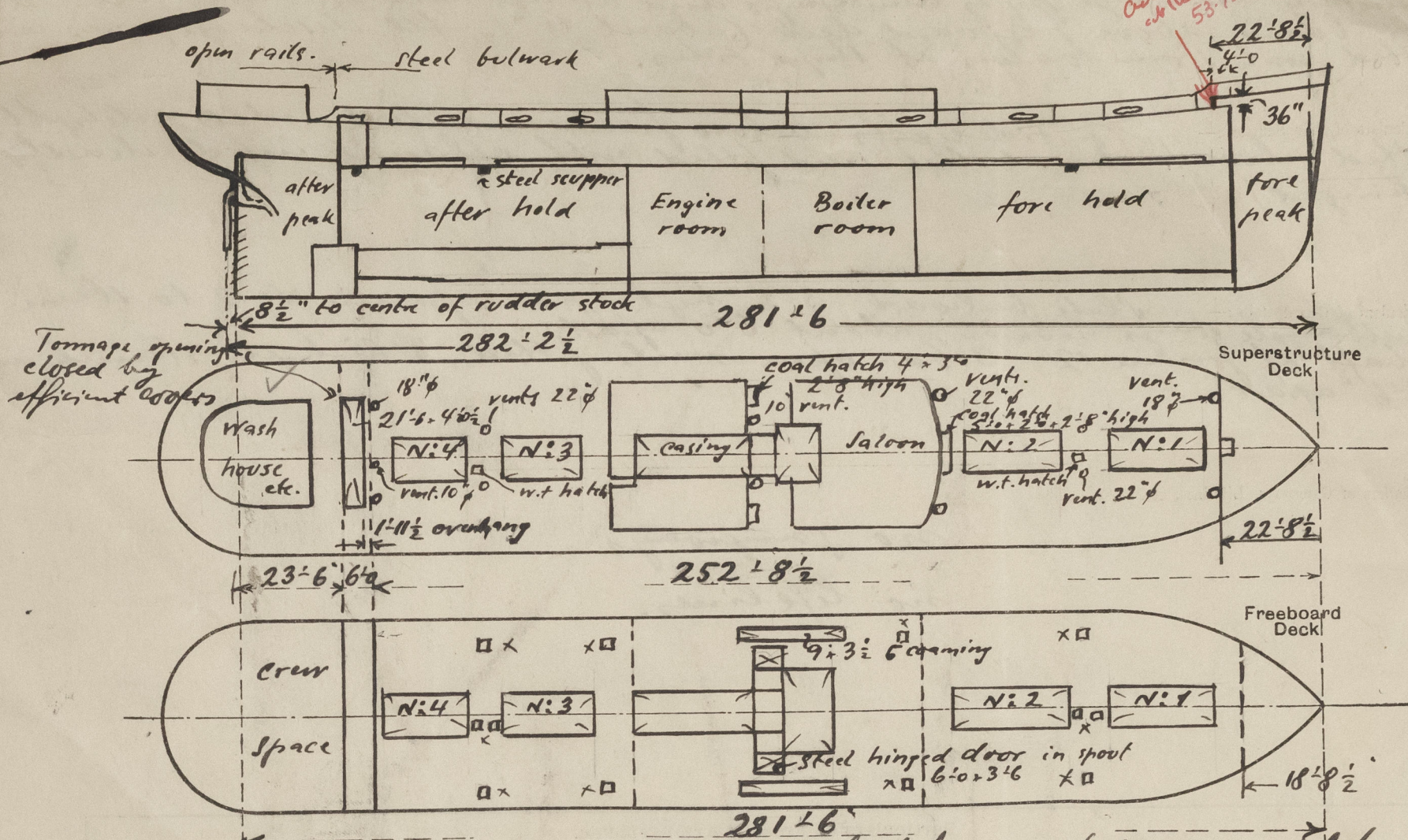
Particulars of Guard Rails:— Plate bulwark 3'6" high, from frame N: 12 to stern
bulwark stays 6x3x.32, about 6'0" apart.
abaft of frame 12 3 bar open rails fitted, 3'6" high, stanchions
4'6" apart.

no pathways
no life lines.

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 <i>(aft. M.S. of lower well)</i>	30" x 30"	.26	5 x 3 x .44	30"	15" x .34 <i>brackets</i>	none	v	9' 11"
Raised Quarter Deck Bulkhead ...	v							
Forecastle Forward Bridge, Aft Bulkhead <i>at opening</i>	24" x 28"	.26	5 x 3 x .44	30"	15" x .34 <i>brackets</i>	9' 6" x 3 1/2'	none	9' 11"
Bridge, Forward Bulkhead ...	v							
Forecastle Bulkhead <i>at raised step forward</i>		.28	4 1/2" x 3 x .32	30"	none	none	v	3' 0"
Trunk, Aft ...	v							
Trunk, Forward ...	v							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	v							
Exposed Machinery Casings on Super-structure Decks ...	12" x 30"	.26	3 x 2 1/2" x .26	30"	none	5' 0" x 2' 0"	15"	7' 9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	18" x 30"	.26	3 x 2 1/2" x .26	30"		door in coal spout 6' 0" x 3' 6"	12"	8' 0"
Deckhouses on Flush Deck Ships ...								

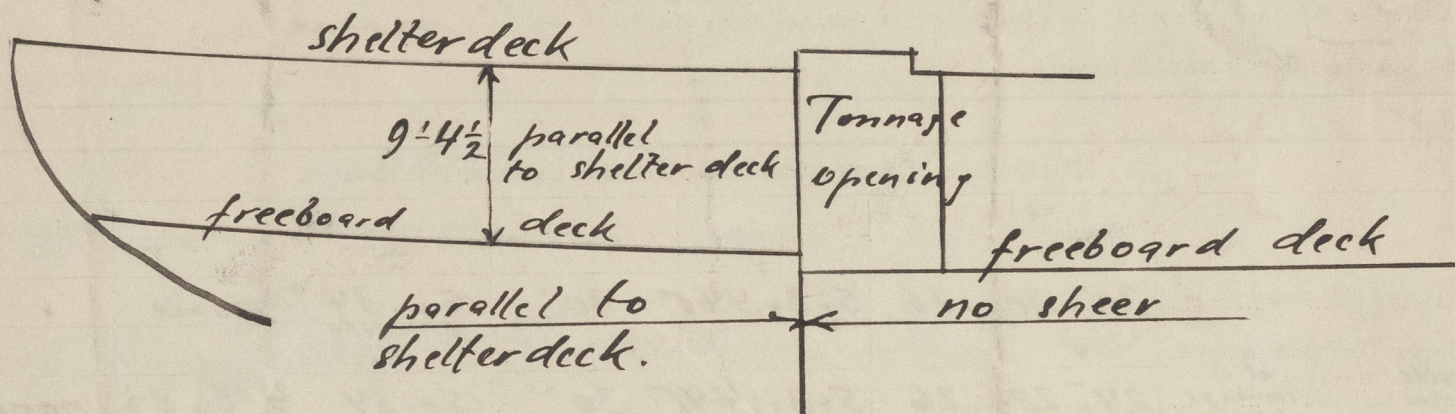
Poop Bulkhead	none ✓ no openings
Raised Quarter Deck Bulkhead ...	✓
Forecastle	✓
Bridge, After Bulkhead	at Tonnage opening
2 Steel bolted plates fastened with hook bolts 13 to 16 ft apart.	
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	none no openings
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel door in halves capable of being operated from both sides. hinged steel doors with 8 turnbuckles to coal spout.
Deckhouses on Flush Deck Ships ...	✓

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



All cargo and coal hatches are fitted complete with battens, tarpaulins and cleats.
 x All escape hatches on freeboard deck fitted with hinged cover and wood hatch cover on top, one tarpaulin and efficient battening arrangements supplied.

State any special features in the construction of the ship:—



Tonnage opening $\frac{B_1 - B_2}{38} = \frac{28 - 21.5}{38} = .434$
 Sheer (front): Actual sheer of superstructure deck at after end of raised slip forward = $76.40 \times \left(\frac{140.75 - 22.71}{140.75} \right)^2 = 53.72$
 i.e. $53.72 + 20.22 (= 73.94)$ above standard height of superstructure amidships.
 ∴ parabolic curve passing through these two points would have ordinates 0, 11.56, 46.76 and 105.10 at F.P.

Builder's name and yard number *Mett. S/S Aalborg Maskin-og Skibb. yard N: 53 Aalborg*
 Names of sister ships *S/S "Ivan Gorthon" Aalborg Shipyard, yard N: 50*
 Owners *Johan Gorthon, Helsingborg, Sweden*
 Fee £ : : Received by me *To be charged on completion.*

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