

WRECK SECTION

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 52728

15 JUL 1932

Computation of Freeboard for Steamer, *Sailing Ship, Tanker*having *a prop, bridge and foremast*Port of Survey *Glasgow*

(Type of Superstructures.)

Date of Survey *8th July 1932*

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

*"GRACIA"**British**144258**5642**1921-6*Name of Surveyor *H. Johnson*Moulded Dimensions: Length *412.58* Breadth *54.0* Depth *33.5"*Moulded displacement at moulded draught = 85 per cent. of moulded depth *13384* tonsCoefficient of fineness for use with Tables *.740*Particulars of Classification *+ 100 A.1.**S.S. No. 2-29*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	33.42	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	54.0
Stringer plate	.46	(33.46 - 27.50) 3.00 = + 17.88	✓	Standard Round of Beam = $\frac{B \times 12}{50}$	12.96
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	✓	Ship's Round of Beam =	13.2
Depth for Freeboard (D) =	33.46	If restricted by superstructures	✓	Difference	.54
				Restricted to	✓
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.54}{4} \times .3761 = -.05"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	34.50	34.50	8.0	✓	34.50
„ overhang	.25	.12	8.0	✓	.12
R.Q.D. enclosed					
„ overhang					
Bridge enclosed	150.75	150.75	8.0	✓	150.75
„ overhang aft	.25	.19	8.0	✓	.19
„ overhang forward	.25	.13	8.0	✓	.13
F'cle enclosed	41.89	41.89	8.0	✓	41.89
„ overhang	3.45	1.72	8.0	✓	1.72
SHUTTER FORWARD	29.25	14.62	8.0	✓	14.62
SHUTTER AFT	27.00	13.50	8.0	✓	13.50
Penning opening aft					
„ forward					
Total	287.58	257.42			257.42

Standard Height of Superstructure *7.50* ✓

„ „ R.Q.D.

Deduction for complete superstructure *42.00* ✓Percentage covered $\frac{S}{L} = 69.70\%$ „ $\frac{S_1}{L} = 62.39\%$ ✓„ $\frac{E}{L} = 62.39\%$ ✓

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = $42 \times .5006 = -21.02$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	51.26	1	51.26	48	48.00	1	48.00
$\frac{1}{2}$ L from A.P.	22.81	4	91.24	21	20.93	4	83.72
$\frac{3}{2}$ L	5.64	2	11.28	5	5.23	2	10.46
Amidships		4				4	
$\frac{3}{2}$ L from F.P.	11.28	2	22.56	9.2	10.46	2	20.92
$\frac{1}{2}$ L	45.63	4	182.52	42	41.86	4	167.44
F.P.	102.52	1	102.52	96	96.00	1	96.00
Total			461.38				426.54

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{34.84}{18} (.75 - .3485) = +.78"$ ✓

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 = *33.46* Ft.Summer freeboard = *6.35*Moulded draught (d) = *27.11*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *6.78* = *6 $\frac{3}{4}$ "*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12824$

Tons per inch immersion at summer load water line

 $T = 42.9$ Deduction = $\frac{\Delta}{40T}$ inches= $\frac{12824}{40 \times 42.9} = 7.48 = 7\frac{1}{2}"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{68 + .74}{1.36} = \frac{1.42}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, *100*, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line

Tropical Line

Winter Line below

Winter North Atlantic Line

Tropical Fresh Water Freeboard

Fresh Water

Tropical

Winter

Winter North Atlantic

18 JUL 1932

W398-0014(1/2)

MARKING FORM

RECEIVED 28 MAR 1934

MARKING FORM

RECEIVED 27 JAN 1939

MARKING FORM

RECEIVED 29 NOV 1932

MARKING FORM

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS																			CASING TOP		upper deck			
upper deck																			B. D.		Port		Starboard	
Description of Hatchway	N ^o 1	N ^o 2	N ^o 3	N ^o 4	N ^o 5	N ^o 6	N ^o 7	N ^o 8	N ^o 9	CARGO HATCH	TUNNEL ESCAPE HATCH	COAL HATCH	TRIMMING HATCHES	UNDER FLOOR	ESCAPE HATCH IN BR.	ESCAPE HATCH IN WELL						
Dimensions of Hatchway	22'-6" x 16'-0"	31'-6" x 16'-0"	15'-9" x 16'-0"	11'-3" x 16'-0"	27'-0" x 16'-0"	20'-3" x 16'-0"	15'-9" x 16'-0"	11'-3" x 16'-0"	8'-3" x 16'-0"	2'-0" x 16'-0"	8'-0" x 16'-0"	4'-6" x 16'-0"	3'-3" x 16'-0"	2'-2" x 16'-0"	2'-4" x 16'-0"	2'-3" x 16'-0"						
COAMINGS	{	Height above Deck	30	30	{	9 x 3 1/2 x .50	9 x 3 1/2 x .50	30	30	30	30	30	18	4	9	12	9	33						
		Thickness	.44	.44		.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44					
		Sides	.44	.44		.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44					
		Ends	.44	.44		.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44	.44					
Stiffeners	...	Y x 3 x .40	Y x 3 x .40			Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40	Y x 3 x .40						
Brackets, Stays	...	none	none			none	none	none	none	none	none	none	none	none	none	none	none	none						
HATCH BEAMS	{	Number	4	6	2	2	5	4	2	2	1													
		Spacing	4'-6"	4'-6"	5'-3"	3'-9"	4'-6"	4'-0"	5'-3"	3'-9"	4'-1"													
		Scantling and Sketch	13 x 34	13 x 34	20 x 40	11 1/2 x 32	13 x 34	13 x 34	16 1/2 x 34	13 x 34	10 x 34													
		Bearing Surface	3 1/2 x 3 x .42	3 1/2 x 3 x .42	2 1/2 x 2 1/2 x .36	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42	3 1/2 x 3 x .42						
FORE AND AFTERS	{	Number																						
		Spacing																						
		Unsupported Lengths																						
		Scantling* and Sketch																						
Bearing Surface	...																							
HATCH COVERS	{	Material			W.P.																			
		Thickness			2 1/2																			
		How fitted			F + A																			
		Bearing Surface			3																			
Spacing of Cleats	...				24																			
Number of Tarpaulins	...				2																			

*Are wood fore and afters steel shod at all bearing surfaces? none

Are battens and wedges efficient and in good condition? yes

Are tarpaulins in good condition and in accordance with rule requirements? yes

Are lashings provided in accordance with rule requirements? Ringsbolts for lashings provided.

Particulars of fiddley, funnel and ventilator coamings :—

engine skylight of steel on casing top - strongly constructed ✓
 Fuley openings protected by strong hinged plate covers ✓
 Ventilators on casing top in good condition. ✓

Particulars of Flush Bunker Scuttles:—

2nd

Particulars of Companionways :—

nm.

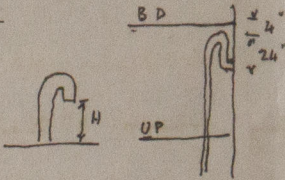
Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :-				24" high		12" dia	
1	ventilator on foremast deck to stove	crossing	-	30	x	21	x .36
2	" " " " " "	"	-	21	"	6	x .40
10	" " " " " "	"	-	36	"	24	x .40
4	" " " " " "	"	-	30	"	24	x .40
1	" " " " " "	"	-	36	"	24	x .40
2	" " " " " "	"	-	30	"	24	x .40
1	" " " " " "	"	-	30	"	9	x .34
1	" " " " " "	"	-	36	"	12	x .32
2	" " " " " "	"	-	36	"	24	x .40
4	" " " " " "	"	-	30	"	24	x .40
2	" " " " " "	"	-	36	"	18	x .38
4	" " " " " "	"	-	36	"	12	x .34
2	" " " " " "	"	-	36	"	9	x .32
4	" " " " " "	"	-	36	"	9	x .32
1	" " " " " "	"	-	36	"	9	x .32

Ventilator coverings constructed in accordance with the Rules and closed with wood plugs and canvas covers. ✓

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

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—			
1	air pipe on forecath deck to fore peak tank	24" high	3" dia
4	" " in forward well to double bottom tanks	25	4
6	" " on bridge deck to d.t. or oil fuel tanks	9	4
1	" " " double bottom tanks	24	3
4	" " in after well to " "	27	4
1	" " " " " "	24	4
1	" " on poop deck to a. p. tank	16	3 1/2
1	" " this ships side in way of forecath to d.t. tank	4"	dia as chuted
18	" " " " " " bridge " " "	4"	"



no snifting holes fitted
so means of closing air pipes
provided.
masks covers & wire gauze.

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

1. coaling port 6'-0" x 4'-6" - 10" cell is fitted on P & S sides in way of ledge where shown on sketch. The doors are strongly constructed and watertight and fastened with 2 strongbacks.

Particulars of Scuppers and Sanitary Discharge Pipes:—

There are no scupper pipes discharging below the foreboard deck.
Sanitary pipes discharge below the foreboard deck where shown in sketch and have storm-valves at ship's side.

Particulars of Side Scuttles:—

Side scuttles below upper deck 10" dia fitted with hinged iron deadlights.
Distance from stringer plate to bottom of light = 26".
Side scuttles in Poop 10" dia. no deadlights.
Side scuttles in Bridge 10" fitted with hinged iron deadlights.
Side scuttles in Forecastle 11" dia. no deadlights.

Particulars of Guard Rails:—

Guard rails on poop and bridge decks 3'-6" high with 3 rods. Stanchions 5'-0" apart.
Guard rails on shelter 3'-0" high with 2 rods. Stanchions 5'-0" apart.
Guard rails on Forecastle deck 3'-9" high with 3 rods. Stanchions 4'-0" apart.

Particulars of Gangways, Lifelines, etc.:—

none
Instruments provided made for rigging lifelines which are available for use in any part of the ship which might have been used by the crew in the regular working of the ship.

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	60.25	4'-0"	42" x 20"	4	23.3	12.52
Forward Well	64.75	4'-0"	42" x 20"	4	23.3	13.0
State position of each freeing port } After Well:— from bridge bulkhead 9'-9", 30'-3", 50'-2", 74'-11" (F. and A. position and height above deck edge) } Forward Well:— " " " 12'-8", 34'-3", 56'-3", 81'-0" } 15" above deck State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— fitted with 2 rails. Additional area where sheer is less than standard.						

Particulars of Superstructures, Trunks, Casings, Deckhouses.

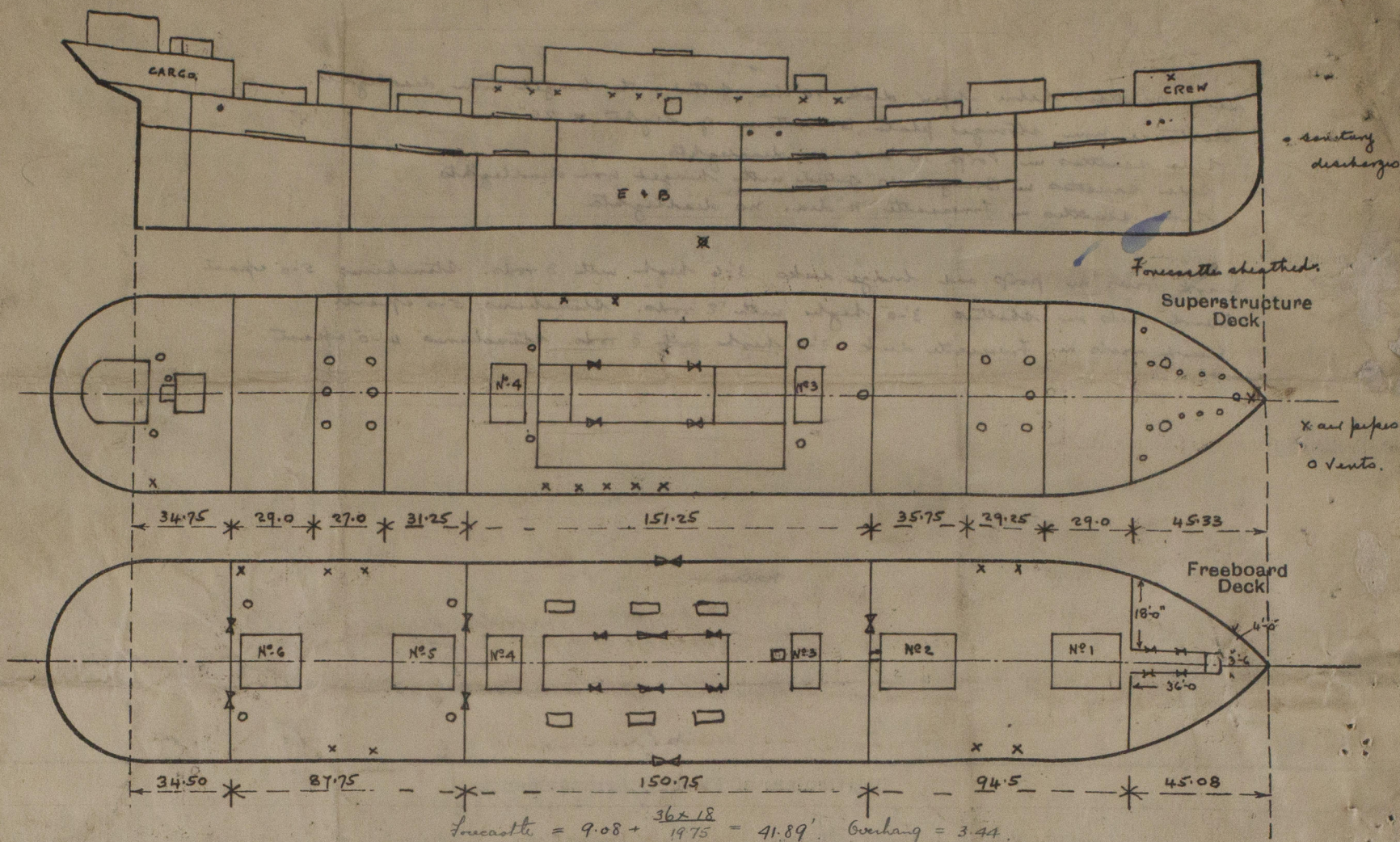
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	18 x 42	38	9 x 3 1/2 x 50 BA	27	brackets top & bottom	5'-6" x 3'-6"	18"	✓
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	18 x 34	32	6 x 3 1/2 x 40 A	33	none	5'-6" x 4'-0"	18"	✓
Bridge, Forward Bulkhead	18 x 42	38	9 x 3 1/2 x 50 BA	30	brackets top & bottom	5'-6" x 3'-6"	18"	✓
Forecastle Bulkhead	none	30	3 x 3 x 30	39	none	5'-3" x 2'-0"	14"	✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Fore-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks					none	Enclosed by steel deckhouse.		
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	none	32	3 1/2 x 3 x 30	28	none	6'-0" x 2'-4"	12"	✓
Deckhouses on Flush Deck Ships ...						4'-6" x 5'-0"	36"	✓

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

Poop Bulkhead	sliding boards 3" thick in channels riveted to bulkhead. Full height of opening
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	sliding boards 3" thick in channels riveted to bulkhead. Full height of opening
Bridge, Forward Bulkhead	Hinged steel door manipulated from both sides
Forecastle Bulkhead	Hinged wood door 1 1/2" thick manipulated from both sides
Exposed Machinery Casings on Fore-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	Enclosed by steel deckhouse
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel door manipulated from both sides
Deckhouses on Flush Deck Ships ...	

Gracia.

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:—

This vessel is engaged in the North Pacific trade.
Timber freeboard not required.

Full displacement at 27'-0" full draft = 12717 tons. Load per inch = 42.87 tons
" " " 28'-0" " " = 13233 " " " = 42.99 "

The survey on this vessel was held afloat and confined to an examination of the means for closing the openings in the decks and sides of the ship.
No part of a special survey was held at this time.

Builder's name and yard number Swanwick S.B. & Co. Ltd No 510.

Names of sister ships not known

Owners Donaldson Line Ltd. (Donaldson Bros Ltd)

Fee £ 13 : 12 : 0

Received by me



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