

Lloyd's Register of Shipping

SURVEYS FOR FREEBOARD

Index No. 27041
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a forecastle and a poop on a shelter deck.

Port of Survey Glasgow.

Date of Survey 18th January 1933.

Name of Surveyor A. D. Aitken.

Particulars of Classification +100 A.I.
shelter deck with freeboard.
S.S. Reg. No. 2-25.

CLAN FARQUHAR (Type of Superstructures)
Ship's Name DELPHIC
Nationality and Port of Official Number BRITISH, GLASGOW, LONDON, 142695
Gross Tonnage 7958
Date of Build 1918-11m.
Moulded Dimensions: Length 450-6 Breadth 58-0 Depth 32-0 to upper deck, 40-0 to shelter deck, 19-50 tons
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables 762

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	40-0	(a) Where D is greater than Table depth (D - Table depth) R = (40-15 - 30-00) × 3 = + 30-45		Moulded Breadth (B)	58-0
Stringer plate	60	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	13-92
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .21 \left(\frac{216}{450} \right) =$	10-5	If restricted by superstructures		Ship's Round of Beam	12
Depth for Freeboard (D) =	40-15			Difference	Deficient 1-92
				Restricted to	.8355
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S}{L} \right)$	$= \frac{1-92}{4} \left(1 - \frac{16-45}{16-45} \right) = + .40$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed	31-0	31-0	7-5		31-0
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Ele enclosed	43-0	43-0	7-5		43-0
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	74-00	74-00			74-00

Standard Height of Superstructure 7-50
" " R.Q.D. —
Deduction for complete superstructure 42-00
Percentage covered $\frac{S}{L} = 16-45\%$
" " $\frac{S_i}{L} = 16-45\%$
" " $\frac{E}{L} = 16-45\%$
Percentage from Table, Line A. 8-22%
(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 = $42-00 \times 8-22 = 3-45$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	55-00	1		55-00	60	60-00	1		60-00
1/4 L from A.P.	24-47	4		97-88	20 1/2	20-54	4		82-16
3/4 L " "	6-05	2		12-10	5	5-13	2		10-26
Amidships		4					4		
3/4 L from F.P.	12-10	2		24-20	5	5-13	2		10-26
1/4 L " "	48-94	4		195-76	20 1/2	20-54	4		82-16
F.P.	110-00	1		110-00	60	60-00	1		60-00
Total				494-94					304-84

Mean actual sheer aft = Deficient
Mean standard sheer aft

Mean actual sheer forward = Deficient
Mean standard sheer forward

Length of enclosed superstructure forward of amidships =

" " aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{494-94}{18} \left(.75 - \frac{190-10}{180} \right) = (+) 7-05$

If limited on account of midship superstructure.

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 = 40-05
Summer freeboard = 11-83
Moulded draught (d) = 29-06

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 7-26 = 7 1/4

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 16205$ tons.

Tons per inch immersion at summer load water line
T = 52

Deduction = $\frac{\Delta}{40 T}$ inches
= 7-79 = 7 3/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	30-45	
Deduction for superstructures		3-45
Sheer correction	7-05	
Round of Beam correction	40	
Correction for Thickness of Deck amidships		1-20
Other corrections, scantlings, etc.	6-39	
Sum	44-29	4-65

Summer Freeboard = 132-00-50

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

Tropical Fresh Water Line above Centre of Disc	15"
Fresh Water Line	7 3/4"
Tropical Line	7 1/2"
Winter Line below	7 1/4"
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	11-0 1/2"
Fresh Water	9-9 1/2"
Tropical	10-4 3/4"
Winter	10-5 1/4"
Winter North Atlantic	11-7 3/4"

23 JAN 1933

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	Nº1	Nº2	Nº3	Nº4	Nº5	Nº6	Port to Starboard	To Saddle Deck		
Dimensions of Hatchway	25'3" x 18'0"	30'3" x 18'0"	24'0" x 18'0"	18'0" x 18'0"	27'0" x 18'0"	27'0" x 18'0"	12'0" x 18'0"	6'0" x 18'0"		
COAMINGS	Height above Deck						3'0"	3'0"		
	Thickness Sides						4'0"	5'0"		
	Stiffeners						7'8" A. B. 1	7'8" A. B. 1		
	Brackets, Stays						None	None		
HATCH BEAMS	Number	4'8"	5'0 1/2"	4'0"	3'6"	5'0"	4'10"	None		
	Spacing									
	Scantling and Sketch	3 1/2 x 3 1/2 x 27					Bulkhead	✓		
	Bearing Surface			3 1/2			✓	✓		
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths									
	Scantling and Sketch									
HATCH COVERS	Material			W.P.			W.P.	W.P.		
	Thickness			3"			3"	3"		
	How fitted			Fixed & girt			Fixed	Fixed		
	Bearing Surface			3"			2 1/2"	2 1/2"		
Spacing of Cleats				2 1/2"			19"	19"		
Number of Tarpaulins				2			2	2		

*Are wood fore and afters steel shod at all bearing surfaces? *✓*
 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? *Yes. Ring bolts.*

Particulars of fiddley, funnel and ventilator coamings:— *Stokehold gratings covered by strong steel linged covers. Fiddley and funnel ventilators in good condition. Engine skylight of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:— *None.*

MINOR HATCHES									
On foredeck	3'0" x 3'0"	9'8" A. Coaming	3' covers	1 1/2" rest	cleats 30"	Tarp 2	Battens good		
In 20. To	3'0" x 3'0"	9" do.	2 1/2" do.	2" do.	do. 30"	do. 1	do. do.		
Stokehold (Bunker)	18'15" 2'2" x 2'5"	15' x 37" do.	2 1/2" do.	2 1/2" do.	do. 12"	do. 2	do. do.		
20	18'15" 3'4" x 3'0"	18' x 37" do.	2 1/2" do.	1 3/4" do.	do. 24"	do. 2	do. do.		
20	18'15" 4'5" x 2'9"	18' x 37" do.	2 1/2" do.	1 3/4" do.	do. 18"	do. 2	do. do.		
20	18'15" 2'10" x 2'5"	15' x 37" do.	2 1/2" do.	2 1/2" do.	do. 19"	do. 2	do. do.		

Particulars of Companionways:— *Hatch on poop. Steel H.T. linged cover 2'10" x 2'10" 2 1/2" x 40" Coaming.*

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

Fore deck. 12 12" dia x 34. 36" high. 12 20" dia x 40. 36" high. Shelter deck. 15 20" do x 40. 36" high. 5 20" " x 40. 9'6" high staggered to leeward. 3 12" dia x 34. 36" high. 1 20" dia. 9'6" high. Poop deck. 1 20" dia x 34. 36" high. 4 12" dia x 30. 27" high (Madison). 2 20" dia x 34. 36" high. 2 Swan Nicks Double. 12" x 12" x 37. 16" high. All vents supplied with wood plugs & canvas covers.

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

To R.P.T. In poop. 12 3 1/2" dia. thru ship side. 2'0" above shelter dk. To Ballast Tanks. 25 2 1/2" do. 20" to opening. Fitted with wood plugs or gauge or canvas covers. To R.P.T. On fore. 1 2 1/4" dia. 25" to do.

Particulars of Gangway Cargo and Coaling Ports:— *None.*

Rpt. C. 11 (Contd.)

Index No. 27041

Lloyd's Register of Shipping.

Ship's Name

CLAN FARQUHAR

Official No. 142695

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines

in JAN., 1933.

PARTICULARS OF COMPANIONWAY.

Companionway on freeboard deck to refriger. cooler flat, between Nos. 4 and 5 hatches, port side of centre line; of steel, strongly constructed, opening 5'0" x 26", sill 6", steel patent watertight door capable of being operated both sides.

Memorandum of above has been entered on Rpt. C. 11 (contd.) and attached to the copy of Rpt. C. 11 on board the vessel.

(Gls., July, 1933).

Noted for B

18 JUL 1933

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Class Yangtze River

Particulars of Scuppers and Sanitary Discharge Pipes:— Shelter deck scuppers 4" dia. 8 P. 80 discharge 2'-0" below deck No N.R.V.
4 P. 45 aft from crew 18" above 2nd deck fitted with N.R.V.
3 P. 35 amidships from officers and engineers 4'-6" below shelter deck, fitted with N.R.V.
1 P. discharge from hospital in forecabin 4'-6" do. do. do.

Particulars of Side Scuttles:— Forecastle 9" glass fitted with deadlights (hinged)
Poop 9" do. do. do.
Crew (below poop) 9" do. do. do. 2'-3" sill to shelter deck!

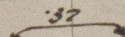
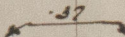

Particulars of Guard Rails:— Forecastle Open rail 3'-9" high. Stanchions 4'-0" apart. 2 rods.
Shelter deck do. 3'-7" do do. 5'-0" do. 3 do.
Poop do. 3'-6" do do. 4'-6" do. 2 do.

Particulars of Gangways, Lifelines, etc.:— Suitable provision made for rigging lifelines which are available for use in any part of the ship which might have to be made by the crew in the regular working of the vessel.

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 ...						
Forward Well ...						
State position of each freeing port ... After Well:— (F. and A. 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.						

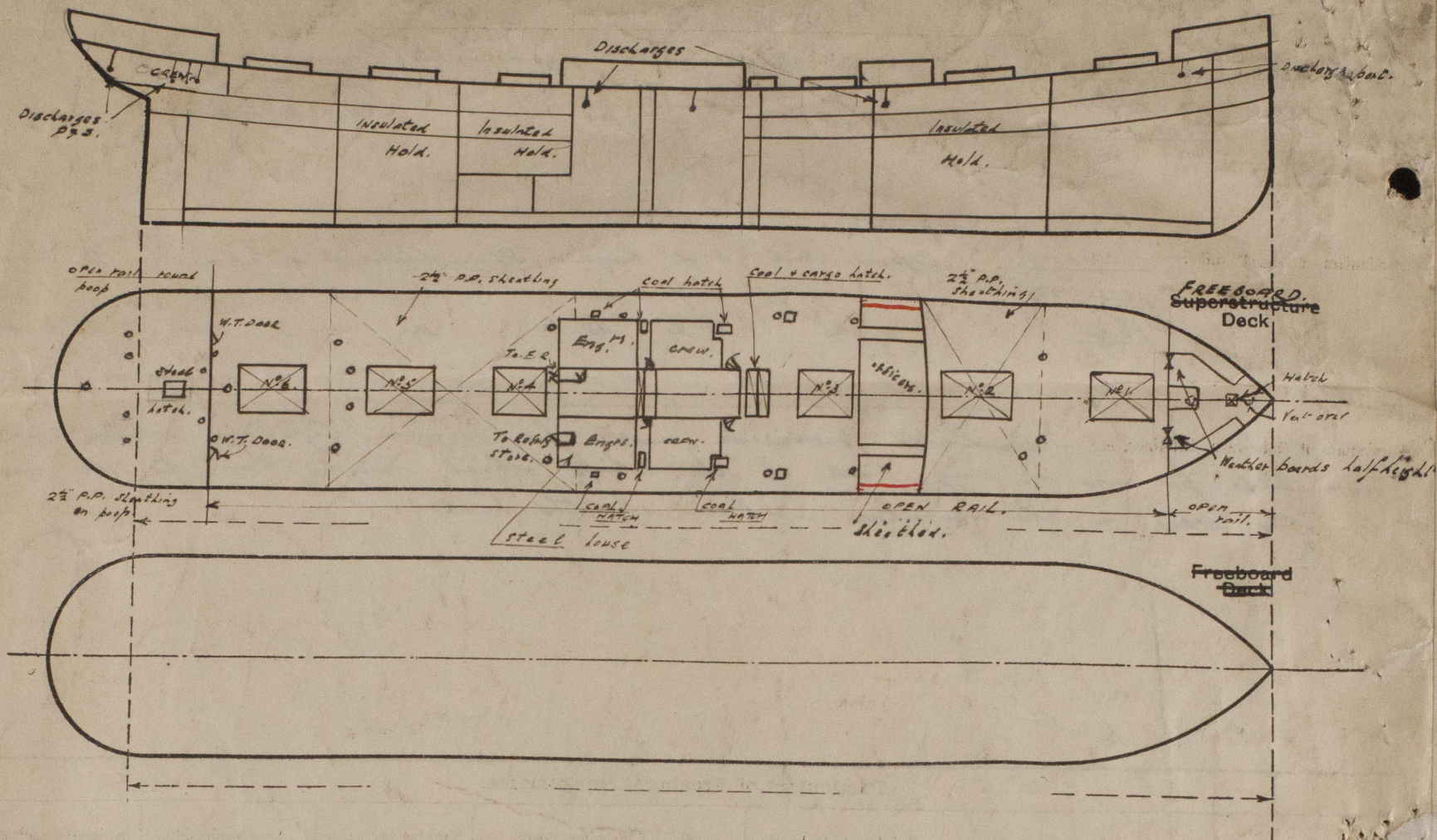
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead			5' x 3' x .40	24"	Lugs. T. & B.	5'-0" x 2'-6"	15"	7'-6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead			3 1/2' x 3' x .35	22 1/2"	None	5'-3" x 3'-6"	15"	7'-6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks			3 1/2' x 3' x .35	36"	Brackets. T. & B.	5'-3" x 2'-2"	18"	7'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances						5'-3" x 2'-0"	15"	7'-9"
						6'-3" x 2'-10"	12"	7'-9"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	Steel hinged H.T. doors operated from both sides.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	Wood shipping boards 2 1/4" thick full height.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Superstructure Decks ...	To Kidley. Hinged steel half door operated from both sides. To Engine Room. Double board door 1" panel leading to door to engine room in inner room. Operated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	To Refig. store. Hinged steel half door fitted with clips operated outside only.
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 shown on the following sketches:—



State any special features in the construction of the ship:— Vessel trades between this country and Australia but has been laid up for three years. Timber freeboard not required. This survey has been held afloat and confined to an examination of the means for closing the openings in the decks and sides of the ship. The Special Survey N°3 has been partly held afloat and is expected to be completed about the middle of next month.

External displacement at extreme draught of	28 feet	=	15390 tons.	T.P.I.
do.	do.	29 do.	= 16030 do.	52 tons.
do.	do.	30 do.	= 16670 do.	
do.	do.	29' 3"	= 16186 do.	

Builder's name and yard number: Harland & Wolff Ltd N° 540.

Names of sister ships: ✓

Owners: Oceanic Steam Nav. Co. Ltd. (White Star Line)

Fee £ 16 : 3 : 0

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