

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2 APR 1932

Index. No.

(For London Office only.)

GLASGOW REPORT No. 52266

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker
having POOP, BRIDGE & FORECASTLE

Port of Survey GLASGOW

Date of Survey 30TH MARCH 1932

Name of Surveyor H.T. & H.L.S.

Particulars of Classification +100A1

(Type of Superstructures.)
HEATHCOT

Ship's Name "CLAN MACBRIDE" Nationality and Port of Registry BRITISH GLASGOW Official Number 13308Y Gross Tonnage 4922 Date of Build 1912-12

Moulded Dimensions: Length 390.0 Breadth 50.25 Depth 30.6
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11265 tons
Coefficient of fineness for use with Tables .776

Depth for Freeboard (D) 30.53

Moulded depth ... 30.6
Stringer plate03
Sheathing on exposed deck ✓
 $T \left(\frac{L-S}{L} \right) =$

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R = $(30.53 - 26.00) \times 3.0 = +13.59$
(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) 50.25
Standard Round of Beam = $\frac{B \times 12}{50} = 12.06$
Ship's Round of Beam = 12.5
Difference .44
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.44}{4} \left(1 - \frac{.4791}{.5209} \right) = .06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poep enclosed ...	32'-9"	32.75	7'-6"	-	32.75
" overhang ...	6	.25	7'-6"	-	.25
B.Q.D. enclosed ...	✓				
" overhang ...	✓				
Bridge enclosed ...	115'-6"	115.50	8'-0"	✓	115.50
" overhang aft ...	6	.37	8'-0"		.37
" overhang forward ...	6	.25	8'-0"		.25
F'cle enclosed ...	37'-0"	37.00	7'-6"	✓	37.00
" overhang ...	9	.75	7'-6"		.75
Trunk ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	187.50	186.87			186.87

Standard Height of Superstructure 7.4

" " R.Q.D. ✓

Deduction for complete superstructure 41.33

Percentage covered $\frac{S}{L} = 48.08$

" " $\frac{S_1}{L} = 47.91$

" " $\frac{E}{L} = 47.91$

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

Percentage from Table, Line B. 34.22
(corrected for absence of forecastle (if required)) ✓

Interpolation for bridge less than 2L (if required) ✓

Deduction = $41.33 \times 34.22 = -14.14$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	49.00	1		49.00	63	63.00	1		63.00
$\frac{1}{2}$ L from A.P. ...	21.81	4		87.24	24.5	27.85	4		111.40
$\frac{2}{3}$ L " ...	5.39	2		10.78	6.5	6.96	2		13.92
Amidships ...	-	4		-	-	-	4		-
$\frac{2}{3}$ L from F.P. ...	10.78	2		21.56	12.5	13.03	2		26.06
$\frac{1}{2}$ L " ...	43.61	4		174.44	52	52.14	4		208.56
F.P. ...	98.00	1		98.00	117	117.00	1		117.00
Total ...				441.02					539.94

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{98.92}{18} \left(\frac{.75 - .2404}{.5096} \right) = -2.80$

If limited on account of midship superstructure. ✓Mean actual sheer aft = EXCESS
Mean standard sheer aftMean actual sheer forward = EXCESS
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = .15 L" " aft of " = .14 L

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 30.53
Summer freeboard = 5.81
Moulded draught (d) = 24.72

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.18 = 6.4
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 10761$

Tons per inch immersion at summer load water line

$T = 39.29$

Deduction = $\frac{\Delta}{40T}$ inches
= $\frac{10761}{40 \times 39.29} = 6.85 = 6.4$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{776 + 68}{1.36} = \frac{1.456}{1.36}$

	+	-
Depth Correction ...	13.59	-
Deduction for superstructures ...	-	14.14
Sheer correction ...	-	2.80
Round of Beam correction ...	-	.06
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	13.59	17.00

Summer Freeboard = 69.82SUMMER 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 " " ...	6.4
Winter North Atlantic Line " "

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

Winter

Winter North Atlantic

5'-9 3/4" Freeboards assigned under the 1906

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Upper Deck											
Description of Hatchway	No. 1	No. 2	No. 4	No. 5	No. 3	Cargo Hatch	Coaling Hatch	Coaling Hatch	Coaling Hatch	Coaling Hatch	Store
Dimensions of Hatchway	29'-3" x 22'-0"	30'-0" x 22'-0"	30'-0" x 22'-0"	30'-0" x 22'-0"	14'-2" x 15'-0"	20'-0" x 15'-0"	5'-9" x 11'-6"	4'-9" x 3'-0"	10'-0" x 4'-0"	3'-9" x 2'-6"	
COAMINGS											
Height above Deck	39"	39"	39"	39"	30"	12"	12"	18"	18"	12"	
Thickness	1/4"	1/4"	1/4"	1/4"	1/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
Sides	1/4"	1/4"	1/4"	1/4"	1/4"	3/4"	3/4"	3/4"	3/4"	3/4"	
Stiffeners	none	none	none	none	none	none	none	none	none	none	
Brackets, Stays	none	none	none	none	none	none	none	none	none	none	
HATCH BEAMS											
Number	5	5	5	5	2	3					
Spacing	4'-10 1/2"	5'-0"	5'-0"	5'-0"	4'-8 1/2"	5'-0"					
Scantling and Sketch	23 x 40 angles 14 x 3 x 14 1/2 6" flange	23 x 40 angles 14 x 3 x 14 1/2 6" flange	23 x 40 angles 14 x 3 x 14 1/2 6" flange	23 x 40 angles 14 x 3 x 14 1/2 6" flange	19 x 34 angles 3 x 3 x 14 1/2 6" fl.	17 x 40 angles 3 x 3 x 14 1/2 6" fl.	none	none	none	none	
Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"					
FORE AND AFTERS											
Number											
Spacing											
Unsupported Lengths											
Scantling and Sketch	none	none	none	none	none	none	none	none	none	none	
Bearing Surface											
HATCH COVERS											
Material	WP	WP	WP	WP	WP	WP	WP	WP	WP	WP	
Thickness	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	
How fitted	F + A	F + A	F + A	F + A	F + A	F + A	F + A	Transverse	Transverse	J	
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"	
Spacing of Cleats	24"	24"	24"	24"	24"	24"	24"	24"	24"	24"	
Number of Tarpaulins	2	2	2	2	2	2	2	2	2	2	

Particulars of fiddle, funnel and ventilator coamings:-

Longer skylight on casing top of steel strongly constructed.
Fiddle openings protected by strong hinged plate covers
Ventilators in casing top in good condition

Particulars of Flush Bunker Scuttles:-

None

Particulars of Companionways:-

None

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

2 vents to hold in forecastle deck	30" high x 21" dia	x 34"
6 " " " in forward well	36 " " x 21 " "	x 36 "
2 " " " on bridge deck	36 " " x 21 " "	x 30 "
2 " " " " " " " " "	12 " " x 6 " "	x 30 "
2 " " " " " " " " "	26 " " x 15 " "	x 30 "
8 " " " " " " " " "	36 " " x 18 " "	x 32 "
1 " " " " " " " " "	36 " " x 9 " "	x 30 "
2 " " " " " " " " "	24 " " x 12 " "	x 32 "

Ventilator coamings 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:-

1 Air pipe in forecastle deck to fore peak tank	2 1/2" high x 3" dia	
2 Air pipes in forward well to B.B. tanks	36 " " x 22 " "	
2 " " " " " " " " "	36 " " x 22 " "	
2 " " " " " " " " "	4 " " x 22 " "	

No snifting holes fitted
air pipes closed with plugs and canvas covers

Particulars of Gangway Cargo and Coaling Ports:-

None

Particulars of Scuppers and Sanitary Discharge Pipes:-

1 Sanitary discharge pipe only below freeboard deck in position shown on sketch
Fitted with storm valve at ship's side and trap on inner end.

Particulars of Side Scuttles:-

Side scuttles in Poop and Forecastle 9" dia. fitted with hinged iron deadlights.
There are no side scuttles below freeboard deck

Particulars of Guard Rails:-

Guard rails on Poop deck and across forward and after ends of
Bridge deck 3' 3" high with rods. Stanchions 4' 6" apart.
Guard rails on Forecastle deck 3' 3" high with 2 rods. Stanchions 4' 3" apart.
A bulwark along side of ship on Bridge deck 3' 6" high with 3 freeing ports 36" x 18"

Particulars of Gangways, Lifelines, etc.:-

no gangway or lifelines are fitted in forward and after wells for the protection of the crew

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	106'-3"	4'-0"	36 x 18	5	22.5	21.6
Forward Well	96'-3"	4'-0"	36 x 18	5	22.5	19.2

State position of each freeing port (E. and A. position and height above deck edge) } After Well:- From bridge end bulkheads 6' 9", 29'-0", 53'-0", 64'-3" & 90'-3" 10' above deck
10' 3", 29'-3", 46'-6", 63'-6" & 81'-3" 12' " "

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:-
Balanced 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	24 x 40	36	6 x 3 x 34	30	none	4'-6" x 2'-0"	19	✓
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	24 x 44	40	3 x 3 x 40	48	none	5'-6" x 3'-3"	24	✓
Bridge, Forward Bulkhead	24 x 44	40	8 x 3 x 40 BA	30	brackets top & bottom	4'-2" x 3'-2"	26	✓
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	19 x 40	32	5 x 3 x 44	39	brackets at top	4'-6" x 2'-0"	20	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	19 x 42	32	5 x 3 x 44	39	none	2'-0" x 1'-6"	22 1/2	✓
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	Hinged steel doors, manipulated from both sides
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	After bulkhead shifting boards in channels for half height. End Bulkhead full height.
Bridge, Forward Bulkhead	Hinged watertight doors with 2 strongbacks. Manipulated from inside only.
Forecastle Bulkhead	none
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors manipulated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Hinged steel doors manipulated from both sides.
Deckhouses on Flush Deck Ships	

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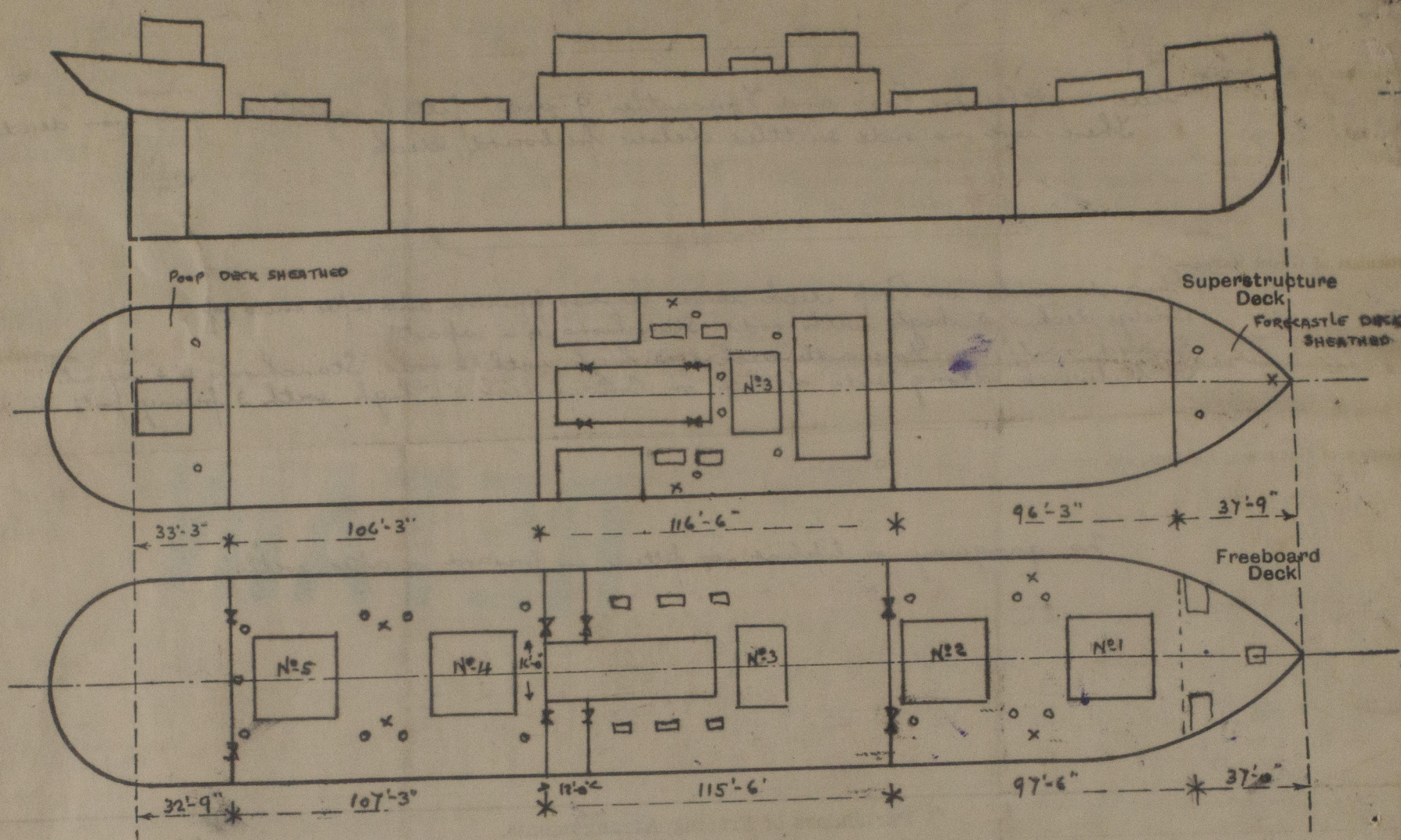
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



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

*This vessel is engaged in the African, Indian, and Australian trade.
Timber freeboard not required.*

Builder's name and yard number ROPNER & SONS LTD. N° 474
Names of sister ships NONE
Owners THE CLAN LINE STEAMERS LD. (CAYZER, IRVINE & CO LD)

Fee £ 12 : 15 : 0

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