

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. **5 2 4 0 4**

28 APR 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having a forecastle on an Awning Deck.Port of Survey Glasgow.Date of Survey 22nd April 1932.Name of Surveyor H. HansenParticulars of Classification + 100A1
Awning deck with freeboard.

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>Clan Macnab</u>	<u>British Glasgow.</u>	<u>144 229</u>	<u>6117</u>	<u>1920-12</u>
Moulded Dimensions: Length <u>405.0'</u> Breadth <u>53.25</u> Depth <u>36.0' to upper deck</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>14357</u> tons				
Coefficient of fineness for use with Tables <u>761</u>				

Depth for Freeboard (D)				
Moulded depth	...	...	...	<u>36.0</u>
Stringer plate	...	<u>5.0</u>	...	<u>.04</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$				
Depth for Freeboard (D) = <u>36.04</u>				

Depth correction	
(a) Where D is greater than Table depth (D-Table depth) R = $(36.04 - 27.00) 3$ <u>+ 27.12</u>	✓
(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)	<u>53.25</u>
Standard Round of Beam = $\frac{B \times 12}{50} =$	<u>12.78</u>
Ship's Round of Beam =	<u>13.2</u>
Difference	<u>.72</u>
Restricted to	
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$	<u>$\frac{.72^2}{4} (.8948) = .16$</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward	<u>41.30</u>	<u>41.30</u>			<u>41.30</u>
W'cle enclosed ...	<u>1.31</u>	<u>1.31</u>	<u>7'-6"</u>		<u>1.31</u>
" overhang ...			<u>7'-6"</u>		
Trunk aft ...	<u>2.62</u>				
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	<u>43.92</u>	<u>42.61</u>			<u>42.61</u>

Standard Height of Superstructure	<u>7.5</u>
" " R.Q.D.	
Deduction for complete superstructure	<u>42.00</u>
Percentage covered $\frac{S}{L} =$	<u>.1085</u>
" " $\frac{S_1}{L} =$	<u>.1052</u>
" " $\frac{E}{L} =$	<u>.1052</u>
Percentage from Table, Line A.	<u>.0526</u>
(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 = $42.00 \times .0526 =$	<u>- 2.21</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>50.50</u>	1		<u>50.50</u>	<u>54</u>	<u>54.00</u>	1		<u>54.00</u>
$\frac{1}{8}$ L from A.P. ...	<u>22.47</u>	4		<u>89.88</u>	<u>24</u>	<u>23.70</u>	4		<u>94.80</u>
$\frac{2}{8}$ L " ...	<u>5.55</u>	2		<u>11.10</u>	<u>5</u>	<u>5.92</u>	2		<u>11.84</u>
Amidships ...		4					4		
$\frac{3}{8}$ L from F.P. ...	<u>11.11</u>	2		<u>22.22</u>	<u>12</u>	<u>11.65</u>	2		<u>23.30</u>
$\frac{4}{8}$ L " ...	<u>44.94</u>	4		<u>179.76</u>	<u>47</u>	<u>46.61</u>	4		<u>186.44</u>
F.P. ...	<u>101.00</u>	1		<u>101.00</u>	<u>102</u>	<u>102.00</u>	1		<u>102.00</u>
Total ...				<u>454.46</u>					<u>472.38</u>

Mean actual sheer aft = Even
Mean standard sheer aft =Mean actual sheer forward = Excess
Mean standard sheer forward =Length of enclosed superstructure forward of amidships = NU
" " aft of " = NUCorrection = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{17.92}{18} (75 - .0542)$

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 = 36.04 ✓
Summer freeboard = 8.52 ✓
Moulded draught (d) = 27.52 ✓Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.88 ✓
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ 12820

Tons per inch immersion at summer load water line

 $T =$ 43.4Deduction = $\frac{\Delta}{40T}$ inches = 7.39 $7\frac{1}{2}$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>27.12</u>	
Deduction for superstructures		<u>2.21</u>
Sheer correction		
Round of Beam correction		<u>.16</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>27.12</u>	<u>2.37</u>

Summer Freeboard = 102.15SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel Deck:—

Tropical Fresh Water Line above Centre of Disc	...	<u>14 1/2</u>
Fresh Water Line	"	<u>7 1/2</u>
Tropical Line	"	<u>7</u>
Winter Line	below	<u>7</u>
Winter North Atlantic Line	"	<u>7</u>

Tropical Fresh Water Freeboard	...	<u>7-3 3/4</u>
Fresh Water	"	<u>7-10 3/4</u>
Tropical	"	<u>7-11 1/4</u>
Winter	"	<u>9-1 1/4</u>
Winter North Atlantic	"	<u>9-1 1/4</u>

MARKING FORM

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	...	...	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.	Hatch on Forecastle	Coaling hatch on casing top	Coaling hatch on casing top
Dimensions of Hatchway	...	...	20'0" x 18'0"	30'0" x 18'0"	12'0" x 18'0"	30'0" x 18'0"	18'0" x 18'0"	4'0" x 4'0"	6'0" x 14'0"	6'0" x 12'6"
COAMINGS	Height above Deck	...	31	31	31	31	31	15	30	30
	Thickness	...	50	50	50	50	50	32	36	36
	Sides	...	44	44	44	44	44	32	36	36
	Stiffeners	...	9 x 3 1/2 x 44	9 x 3 1/2 x 44	9 x 3 1/2 x 44	9 x 3 1/2 x 44	9 x 3 1/2 x 44	none	none	none
	Brackets, Stays	...	none	none	none	none	none	none	none	none
HATCH BEAMS	Number	...	3	4	1	4	3			
	Spacing	...	5'-0 3/4	6'-0"	6'-0"	6'-0"	4'-6"			
	Scantling and Sketch	...	16 x 36	15 x 36	15 x 36	15 x 36	15 x 36	none	none	none
		...	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44	4 x 3 x 44			
	Bearing Surface	...	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
	Bearing Surface	...								
HATCH COVERS	Material	...	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	...	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	3	3	3
	How fitted	...	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.	transverse	F. & A.	F. & A.
	Bearing Surface	...	3	3	3	3	3	3	3	3
Spacing of Cleats	...	...	24	24	24	24	24	24	24	24
Number of Tarpaulins	...	...	2	2	2	2	2	2	2	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? Ringbolts for lashings provided.										

Particulars of fiddle, funnel and ventilator coamings:—

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

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

Entrance to crew's quarters on after deck protected by side houses.
 Doors 5'0" x 2'0" Teak 1 3/4" thick. manipulated from both sides.

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

2	vents on forecandle deck to hold	coamings 30" high	x 24 dia	x 38	special supported	Ventilator coamings constructed in accordance with the Rules and closed with wood plugs and canvas covers.
2	on fore deck to hold	10'-5"	x 24	x 38	not stayed to house.	
2	amidships to hold	36"	x 14	x 36		
2	between deck	36"	x 12	x 34		
2	deep tank	36"	x 13	x 40		
2	on after deck to hold	36"	x 24	x 40		

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

1	air pipe in forecandle deck to f.p. tank	18" high	x 3 1/2 dia		
1	on fore peak	32"	x 3 1/2		
3	amidships	36"	x 4		
2	on after deck	28"	x 14		
6		12"	x 3		
6		20"	x 2		
1		28"	x 4		
1		18"	x 3 1/2		
5	to a.p. tank to accommodation	5"	x 6		

No snifting holes fitted.
 Air pipes at ends closed with wood plugs and canvas covers.
 Air pipes amidships closed with wire gauge in bad condition.

Particulars of Gangway Cargo and Coaling Ports:—

None.



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Ship's Name "CLAN MACNAB"

Official No. 144 229

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines
in April 1932.

RETAIN



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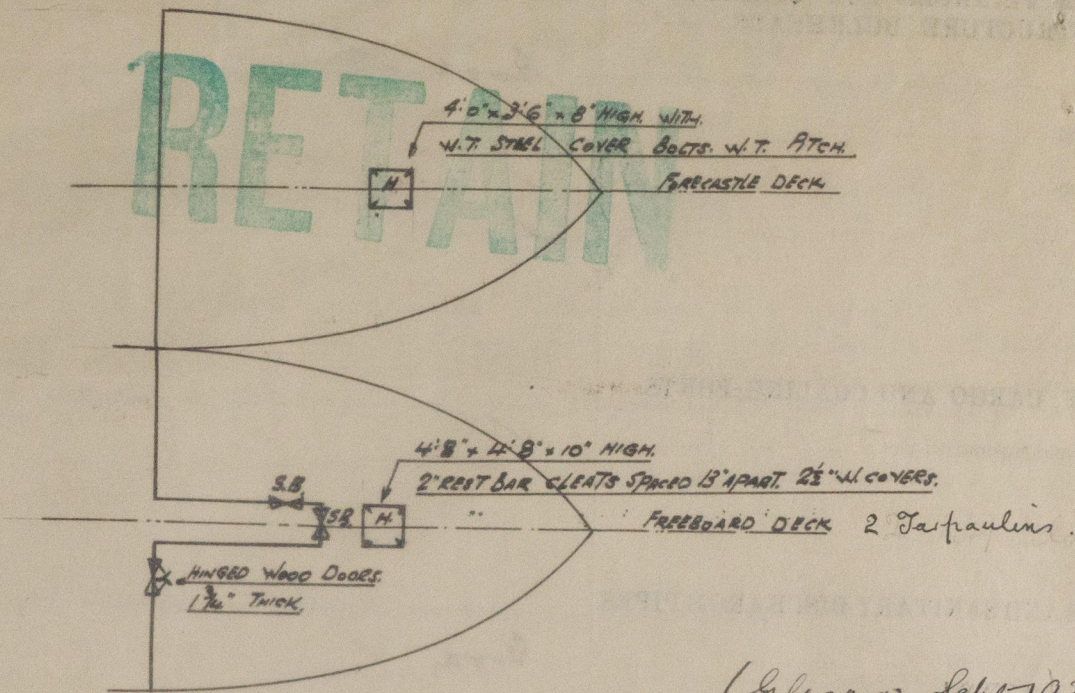
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W377-0296 2/14

SEP 1932

Particulars of any change from the conditions given on the Load Line Certificate or on Form C 11.

ALTERATIONS IN WAY OF FORECASTLE.



(Glasgow Sept 1937)

Certificate A. To be signed by Surveyor in respect of a partial or complete survey.

I have surveyed the ship named at the head hereof, to the extent indicated below, in accordance with the instructions contained in Board of Trade Circular 1687, and the requisite details of the survey have been entered herein.

Index Nos. of items examined. †	Signature of Surveyor.	Place.	Date.
all.	W. Henderson	Glasgow.	4 th Sept. 1936

Certificate B. To be signed by Surveyor completing the survey.

- I am satisfied
- (i) that the fittings and appliances for the protection of openings, the guard rails, the freeing ports and the means of access to the crew's quarters have been maintained on the ship in as effective a condition as they were in when the certificate was issued; and
 - (ii) that no material alterations have taken place in the hull or superstructures of the ship which affect the positions of the load lines.
- I have endorsed the Load Line Certificate and the certified copy as follows:—

Signature of Surveyor W. Henderson Place Glasgow Date 4th Sept. 1937

Signature W. Henderson Date 4th Sept. 1937

† Insert "all" in case of a complete survey.

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99.37
19 SEP 1937
L9-0-0 + L1-0-0

Number of Visits 4

Surveyors should note that there is only one valid certificate, and the above endorsement should be made thereon. No entry should be made on a certified copy of the certificate unless the original certificate has been produced to and endorsed by the Surveyor.

Items examined.	Condition in which found.	Repairs.	
		Necessary.	Date effected.
14. CLOSING APPLIANCES FOR OPENINGS IN SUPERSTRUCTURE BULKHEADS.			
Forecastle	Good. ✓		
Bridge, fore end... ..	✓		
Bridge, after end	✓		
Poop	✓		
15. GANGWAY, CARGO AND COALING PORTS.			
In ship's side and superstructures	✓		
16. SCUPPERS AND SANITARY DISCHARGE PIPES.			
Valves	Good. ✓		
17. SIDE SCUTTLES AND DEADLIGHTS	Good. except ✓	3 glasses renewed in crew quarters	4/9/37
18. GUARD RAILS	Good. ✓		
19. PROTECTION AND ACCESS TO CREW'S QUARTERS.			
Gangways	✓		
20. LIFELINES (fittings and material)	3" Manila rope ✓		
21. FREEING PORTS			
Shutters	✓		
Protection bars	✓		
22. TIMBER, TANKER OR SPECIAL STEAMER LOAD LINES.			
Fittings or appliances	✓		
23. ITEMS NOT INCLUDED IN THE FOREGOING	✓		
24. LOAD LINE MARKS	Markings checked and found correct. ✓		

Clan Macnab

Particulars of Scuppers and Sanitary Discharge Pipes —

Scuppers for weather deck cut in Awning deck stringer angles ✓
 Sanitary discharge pipes when shown on sketch fitted with storm valves at ships side and traps on inner end. ✓

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Particulars of Side Scuttles:

Side scuttles under Awning deck 9" dia. fitted with hinged iron deadlights. ✓
 Distance from underside of Awning deck to bottom of scuttles: 27" ✓
 There are no side scuttles below upper deck.
 Side scuttles in forecastle 9" dia. fitted with hinged iron deadlights. ✓

Particulars of Guard Rails:—

Guard rails in forecastle deck 3'-6" high with rods. Stanchions 4'-6" apart. ✓
 Guard rails fitted on Awning deck in way of cargo hatchways 3'-8" high with 4 rods. ✓
 Stanchions 4'-9" apart.
 Bulwark 3'-8" high fitted between hatchways and for a length of 84 feet amidships. ✓

Particulars of Gangways, Lifelines, etc.:—

the gangway or lifelines are fitted in the weather deck. ✓
 Lifelines provided on the foreboard deck 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			None ✓			
Forward Well			None ✓			
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.						

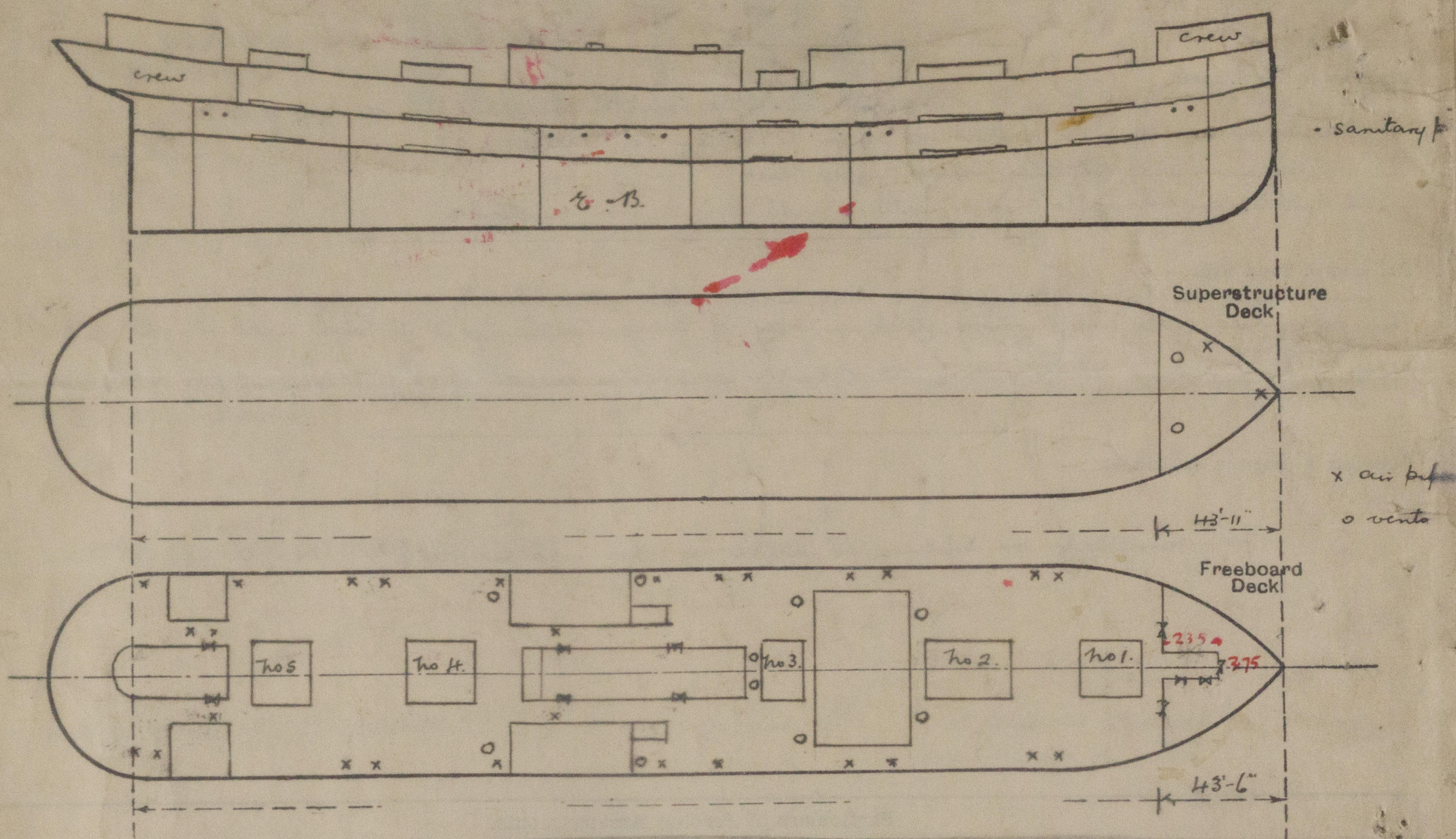
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	none ✓	30	3 x 3 x 32	30	none	3'-5"0" x 2'0"0" 2'-8"0" x 4'0"0"	18	✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	none ✓	36	3 x 3 x 30	36	brackets at top ✓	5'0" x 2'0"	18	7'-6"
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships	none ✓	34	3 1/2 x 3 x 36	36	none	5'0" x 2'0"	18	7'-6"

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	(3) Hinged wood doors 1 1/2" thick manipulated from both sides
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	(2) Shifting boards 3" thick in channels riveted to bulkhead full height of opening
Exposed Machinery Casings on Superstructure Decks	Hinged steel plate doors manipulated from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	Hinged teak doors 1 1/2" thick manipulated from both sides. ✓

W377-029 6 414

Clan Macneil

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;—



Recess in hull $\frac{235 + 375}{40} = 22.5$
 $\frac{439}{41.3}$

State any special features in the construction of the ship:— This vessel is engaged in the Indian, African Australian trade
 Timber Freeboard not required.

Full displacement at 28'-9 $\frac{1}{2}$ " full draft	=	✓ tons.	Tons per inch	43.5 tons
27'-9 $\frac{1}{2}$ "	=	12840		43.4
26'-9 $\frac{1}{2}$ "	=	✓		43.2

This survey has been held afloat and therefore confined to an examination of the means for closing the openings in the decks and the sides of the ship. No part of a special survey has been held at this time.

H. Thomson

Builder's name and yard number: Ayrshire Dockyard Co. Ltd. No. 485

Names of sister ships: "Clan Macneil", "Clan Macrair", "Clan Macraughton", "Clan Murdoch"

Owners: The Clan Line Steamers Ltd. Cairnes Irvine & Co. Ltd.

Fee £ 14 : 9 : 0

Received by me



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