

17 AUG 1932

Rpt. C.11.

Index. No. **25130**
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. **52820**

Computation of Freeboard for Steamer, *having a forecastle on an awning deck*

(Type of Superstructures.)

Ship's Name "GLAN MACKENZIE"	Nationality and Port of Registry <i>British Glasgow</i>	Official Number 137849	Gross Tonnage 2554	Date of Build 1917-6
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Port of Survey *Glasgow*
Date of Survey **15th August 1932**
Name of Surveyor *R. Thorne*

Moulded Dimensions: Length **420.1** Breadth **53.16** Depth **39.0**
Moulded displacement at moulded draught = 85 per cent. of moulded depth **15230** tons
Coefficient of fineness for use with Tables **.42**

Particulars of Classification **+ 100A1**
S.S. Glo. No. 3-12-29

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 39.0	(a) Where D is greater than Table depth (D - Table depth) R = $\frac{1.09}{100}$ $(39.05 - 28.01) \times 3 = 33.12$	Moulded Breadth (B) 53.16
Stringer plate ... .56	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 12.76$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 13
Depth for Freeboard (D) = 39.05		Difference .24
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.24}{4} \times .9191 = .055$

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 ...					
F'cle enclosed ...	34.00	34.00	4.5	1.09	34.00
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	34.00	34.00			34.00

Standard Height of Superstructure	4.5
" " R.Q.D.	
Deduction for complete superstructure	42.0
Percentage covered $\frac{S}{L} =$	.0809
" " $\frac{S_1}{L} =$	.0809
" " $\frac{E}{L} =$	.0809
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	.0404
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than .2L (if required)	
Deduction = .0404 x 42 =	1.70

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	52.01	1		52.01	60	60.00	1		60.00
$\frac{1}{8}L$ from A.P. ...	23.14	4		92.56	25	25.28	4		101.12
$\frac{2}{8}L$ " ...	5.72	2		11.44	6	6.32	2		12.64
Amidships ...		4					4		
$\frac{3}{8}L$ from F.P. ...	11.44	2		22.88	12	12.62	2		27.24
$\frac{4}{8}L$ " ...	46.29	4		185.16	54	54.51	4		218.04
F.P. ...	104.02	1		104.02	120	120.00	1		120.00
Total ...				468.07					539.04

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

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 =	39.05
Summer freeboard =	11.10
Moulded draught (d) =	27.95

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **6.99**

Addition for Winter North Atlantic Freeboard (if required) =

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 = $\frac{\Delta}{40T}$ inches

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.42 + .68}{1.36} = \frac{1.10}{1.36}$ Depth Correction ... **33.12**Deduction for superstructures ... **1.70**Sheer correction ... **.06**Round of Beam correction ... **.06**

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, ... **21.44**Summer Freeboard = **133.25**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Steel**, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	14"
Fresh Water Line " " ...	4"
Tropical Line " " ...	4"
Winter Line below " " ...	4"

Tropical Fresh Water Freeboard ...	9' - 9$\frac{1}{4}$"
Fresh Water " " ...	10' - 6$\frac{1}{4}$"
Tropical " " ...	10' - 6$\frac{1}{4}$"
Winter " " ...	11' - 8$\frac{1}{4}$"

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Clan Mackenzie

Particulars of siddle, funnel and ventilator coverings:—

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

me.

Doors 4'-6" x 2'-0" with 18" sill.
 Hinged steel doors mounted from one side only.
 House flooring 3/2 stuffs 4" x 3" 3/2 sp. 3/6" no end connections.

2 Ventilators in exposed positions on freeboard		and superstructure decks :-	
2	ventilators on freeboard deck	timber decks, coverings	12' high x 8' dia x 30
2	" " " " " "	" "	36 " x 19 1/2 " x 38
4	" " " " " "	" "	36 " x 19 1/2 " x 38
6	" " " " " "	" "	36 " x 19 1/2 " x 38
4	" " " " " "	" "	38 " x 13 1/2 " x 36
2	" " " " " "	" "	18 " x 12 " x 30
5	" " " " " "	" "	12 " x 6 " x 26

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

1	air pipes on forecath deck to d. b. tank	16" high x 8" dia
2	- - - fore deck - - -	27" - x 2 1/2" -
2	- - - aft - - -	27" - x 2 1/2" -

no anything holes fitted
Suitable
~~no~~ means of closing are papers
provided.

une.

There are no supply papers discharging below the firebreak deck.
Sanitary papers discharge below the firebreak deck where shown on sketch and have storm valves
fitted at ship's side.

There are no side scuttles fitted below the upper deck or in forecabin.
Side scuttles in running tween decks 8' dia fitted with hinged deadlights.
Bottom of lights below running deck stringer plate = 27".

Search rails on fire-eater deck 3'-0" high with 2 rds. stanchions 4'-0" apart.
Search rails on awning deck where shown on sketch
3'-0" high with 3 rds. stanchions 4'-6" apart.
Elsewhere on awning deck a bulwark 3'-0" high is fitted.

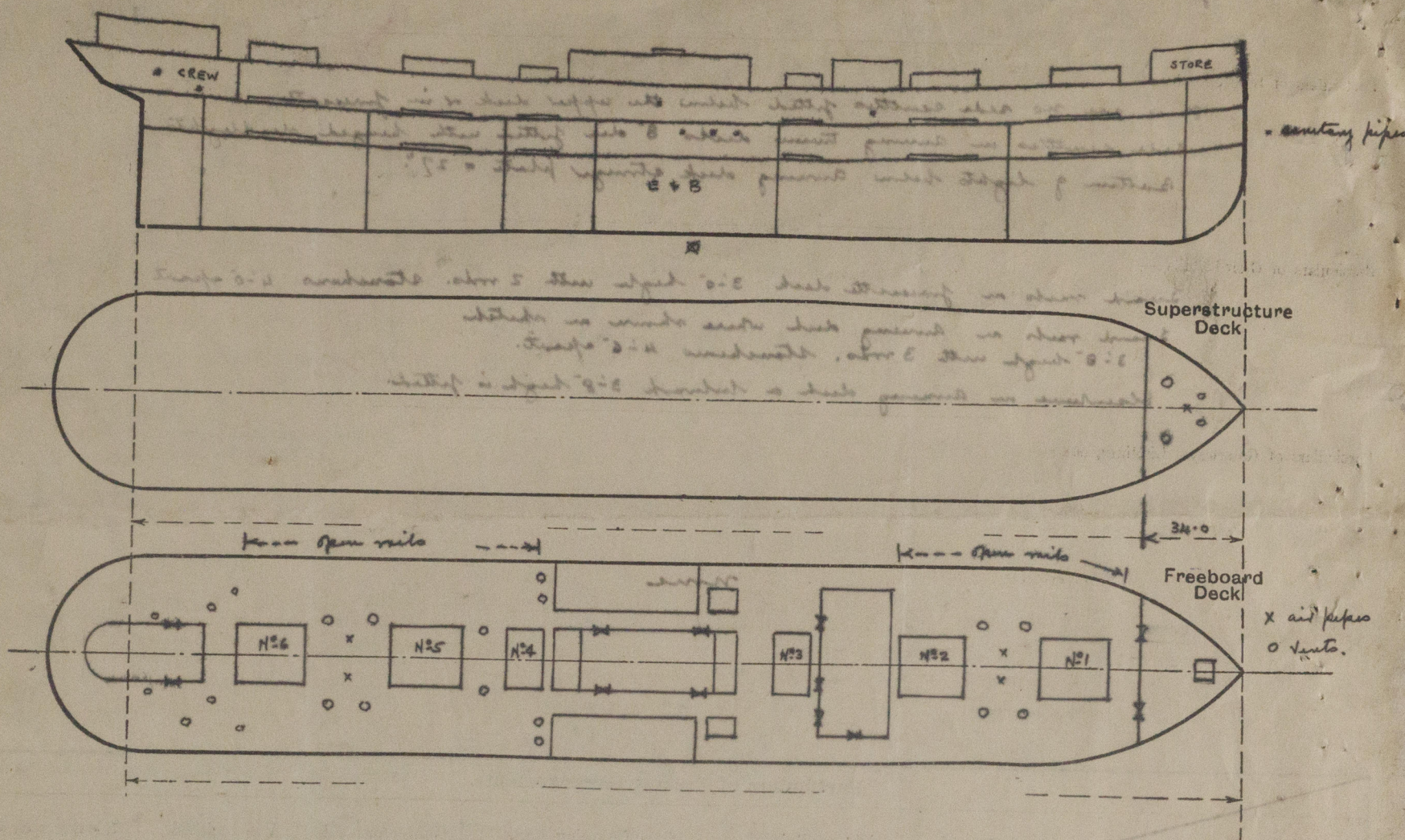
State position of each freeing port ... } After Well :—
(F. and A. position and height above deck edge) } Forward Well :—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—
Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Peep Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead <i>ON A.W.N. DE</i> ...	<i>24 x 32</i>	<i>.28</i>	<i>3 1/2 x 3 1/2 x 32</i>	<i>30</i>	<i>none</i>	<i>5'-8" x 3'-6"</i>	<i>24</i>	<i>-</i>
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board <i>on Raised Quarter Decks</i> ...	<i>18 x 36</i>	<i>.32</i>	<i>4 x 4 x 40</i>	<i>40</i>	<i>brackets at top</i>	<i>4'-6" x 2'-0"</i>	<i>18"</i>	<i>7'-0"</i>
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstruc-tures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...	<i>none</i>	<i>.32</i>	<i>4 x 3 x 32</i>	<i>36</i>	<i>none</i>	<i>4'-8" x 2'-2"</i>	<i>20"</i>	<i>7'-6"</i>

Deep Bulkhead	...	...	...	(all) to be removed, replaced by all structural steel work
Raised Quarter Deck Bulkhead	...	...	...
Bridge, After Bulkhead	...	...	...
Bridge, Forward Bulkhead	...	...	...
* Forecastle Bulkhead ^{ON A/WN DECK}	...	...	...	Shifting timbers 3" thick in channels riveted to bulkhead. Full height of framing
Exposed Machinery Casings on Free-board on Raised Quarter Deck	...	...	...	Hinged steel doors manipulated from one side only.
Exposed Machinery Casings on Super-structure Decks	...	...	...
Machinery Casings within Superstructure not fitted with Glass & Closing Appliances	...	...	...
Deckhouses on Flush Deck Ships	...	...	...	Hinged work doors 14" thick manipulated from both sides.

Plan Mackenzie

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 Indian, African & Australian trade. Timber fastened not required.

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

Builder's name and yard number Northumberland S.B. & Co. Ltd. No 231.

Names of sister ships not known

Owners The Glen Line Steamers Ltd. (Layard, Irvine & Co. Ltd.)

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