

25 NOV 1936

Index. No. 34825
(For London Office only.)Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

MIM 2980

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Complete shelter deck with tonnage opening aft.*
Poop, Bridge & Forecastle on shelter deck.
(Type of Superstructures.)

Gen. Report No. 20272.

Port of Survey *Grunwick*Date of Survey *While Building*Name of Surveyor *H. L. Swinton*Particulars of Classification *100A1.**With freeboard*
(Contemplated)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"CLAN CAMERON"	<i>British Glasgow.</i>	<i>164108</i>	<i>2250</i> <i>7243</i>	<i>1936.</i>
Moulded Dimensions: Length <i>457'</i> Breadth <i>62.75'</i> Depth <i>32.51'</i>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>15507</i> tons				
Coefficient of fineness for use with Tables <i>.685</i>				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>32.51'</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>(32.55 - 30.47) 3 = + 6.24"</i>	Moulded Breadth (B) <i>62.75'</i>
Stringer plate <i>.46"</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>2.08"</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>15.06"</i>
Sheathing on exposed deck <i>✓</i>		Ship's Round of Beam <i>15 1/2"</i>
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures <i>✓</i>	Difference <i>Excess</i> = <i>.44"</i>
Depth for Freeboard (D) = <i>32.55</i>		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.44}{4} \times .0055 = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>33.08'</i>	<i>33.08'</i>	<i>8.2'</i>	<i>✓</i>	<i>33.08'</i>
" overhang	<i>.92'</i>	<i>.46'</i>		<i>✓</i>	<i>.46'</i>
R.Q.D. enclosed					
" overhang					
Bridge enclosed...					
" overhang aft					
" overhang forward	<i>418.42'</i>	<i>418.42'</i>	<i>8.2'</i>	<i>✓</i>	<i>418.42'</i>
F'cle enclosed					
" overhang					
Trunk aft					
" forward		<i>1/2 diff</i>			
Tonnage opening aft ...	<i>4.58'</i>	<i>2.52'</i>	<i>8.2'</i>		<i>2.52'</i>
" forward					
Total	<i>457.00'</i>	<i>454.48'</i>			<i>454.48'</i>

Standard Height of Superstructure *7.50*

" " R.Q.D. *✓*

Deduction for complete superstructure *42.00'*

Percentage covered $\frac{S}{L} =$ *100.00*

" " $\frac{S_1}{L} =$ *99.45*

" " $\frac{E}{L} =$ *99.45*

Percentage from Table, Line A. *99.32*

(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* x *.9932* = *-41.72'*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>55.70</i>	<i>1</i>		<i>55.70</i>	<i>+ 8.50</i> <i>60"</i>	<i>68.50</i>	<i>1</i>		<i>68.50</i>
1/2 L from A.P. ...	<i>24.79</i>	<i>4</i>		<i>99.16</i>	<i>27</i>	<i>30.48</i>	<i>4</i>		<i>121.92</i>
1/2 L "	<i>6.13</i>	<i>2</i>		<i>12.26</i>	<i>8 1/2</i>	<i>7.53</i>	<i>2</i>		<i>15.06</i>
Amidships	<i>-</i>	<i>4</i>		<i>-</i>	<i>0</i>	<i>-</i>	<i>4</i>		<i>-</i>
1/2 L from F.P. ...	<i>12.25</i>	<i>2</i>		<i>24.50</i>	<i>14</i>	<i>14.13</i>	<i>2</i>		<i>28.26</i>
1/2 L "	<i>49.57</i>	<i>4</i>		<i>198.28</i>	<i>54</i>	<i>54.18</i>	<i>4</i>		<i>228.72</i>
F.P.	<i>111.40</i>	<i>1</i>		<i>111.40</i>	<i>+ 8.50</i> <i>120</i>	<i>128.50</i>	<i>1</i>		<i>128.50</i>
Total				<i>501.30</i>					<i>590.96</i>

Mean actual sheer aft = *Excess*

Mean standard sheer aft = *Excess*

Mean actual sheer forward = *Excess*

Mean standard sheer forward = *Excess*

Length of enclosed superstructure forward of amidships = *6.13*

" " aft of " = *6.13*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{89.66}{18} \left(75 - .50 \right) = -1.25$

If limited on account of midship superstructure. *✓*

If limited to maximum allowance of 1 1/2 ins. per 100 ft. *.25*

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *32.55*

Summer freeboard = *4.40*

Moulded draught (d) = *28.15*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *7.04* = *7"*Addition for Winter North Atlantic Freeboard (if required) = *✓*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ *16057*

Tons per inch immersion at summer load water line

 $T =$ *55.50*Deduction = $\frac{\Delta}{40T}$ inches $=$ *7.23* = *7 1/4"*

TABULAR FREEBOARD corrected for Plank Deck (if required)

Correction for coefficient $\frac{.685 + .68}{1.36} = \frac{1.365}{1.36}$

	+	-
Depth Correction	<i>6.24</i>	<i>-</i>
Deduction for superstructures	<i>-</i>	<i>41.72</i>
Sheer correction	<i>-</i>	<i>1.25</i>
Round of Beam correction	<i>-</i>	<i>-</i>
Correction for Thickness of Deck amidships	<i>-</i>	<i>-</i>
Other corrections, scantlings, etc.	<i>-</i>	<i>-</i>
	<i>6.24</i>	<i>42.97</i>

Summer Freeboard = *52.87*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc	<i>1 1/4"</i>
Fresh Water Line " "	<i>7/4"</i>
Tropical Line " "	<i>7"</i>
Winter Line below " "	<i>7"</i>
Winter North Atlantic Line " "	<i>-</i>

Tropical Fresh Water Freeboard	<i>3' 2 1/2"</i>
Fresh Water " "	<i>3' 9 1/2"</i>
Tropical " "	<i>3' 9 3/4"</i>
Winter " "	<i>4' 11 3/4"</i>
Winter North Atlantic " "	<i>-</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
SUPERSTRUCTURE DECK					FREEBOARD DECK					
Description of Hatchway	N. 1.	N. 2.	N. 3.	N. 4.	N. 5.	N. 1.	N. 2.	N. 3.	N. 4.	N. 5.
Dimensions of Hatchway	20'3" x 18'0"	48'6" x 21'0"	22'0" x 21'0"	35'9" x 21'0"	22'0" x 21'0"	20'3" x 18'0"	48'6" x 21'0"	22'0" x 21'0"	35'9" x 21'0"	22'0" x 21'0"
COAMINGS	Height above Deck	38"	38"	30"	30"	38"	38"	38"	38"	38"
	Thickness	50	50	50	50	50	50	50	50	50
	Sides	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"
	Stiffeners	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"	9" x 3/4" x 1/2"
HATCH BEAMS	Number	3	9	3	7	3	9	3	7	3
	Spacing	5'0 1/4"	4'10 3/8"	5'6"	4'5 7/8"	5'6"	4'10 3/8"	5'6"	4'5 7/8"	5'6"
	Scantling and Sketch	16 x 36	14 x 36	15 x 36	13 x 36	16 x 36	18 x 36	20 x 36	17 x 36	20 x 36
	Bearing Surface	3 1/2"	6"	6"	6"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	Number	Sketch of N. 2, 3, 4 & 5 hatch side coaming on ship's deck to suit T. & B. sliding beams.								
	Spacing	11 x 3 1/2" x 12 B.A. @ N. 2								
	Unsupported Lengths	12 x 3 1/2" x 50 B.A. @ N. 3								
	Scantling and Sketch	10 x 3 1/2" x 40 B.A. @ N. 4								
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"	2 1/8"
	How fitted	F.O.A.	F.O.A.	F.O.A.	F.O.A.	F.O.A.	F.O.A.	F.O.A.	F.O.A.	F.O.A.
	Bearing Surface	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	3	3	3	3	2	2	2	2	2

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle, funnel & ventilator coamings efficient.
Engine room skylight of steel strongly constructed.
Fiddle gratings fitted with strong steel hinged covers permanently attached.

Hatch on fore d.k. 2'0" x 2'22". Coam. 9" x 3" x 40 B.A.
Steel W.T. Coam with cleats 14" apart.
Cooling hatch on bridge d.k. 11'0" x 19'0".
Coam. 9" x 3" x 40 B.A. 1 web. 13 x 44. 31 x 250 deck ang.
Cover 2 1/2". Rest 3". Cleats 24" apart. 2 tarp.
Cooling hatch on bridge d.k. 5'6" x 19'0".
Coam. 9" x 3" x 40 B.A. Cover 2 1/2". Rest 3". Cleats 24"
2 tarp.

Particulars of Flush Bunker Scuttles:—

None.

Cooling hatches on bridge d.k. 2'0" x 2'22". Coam. 6 1/2" above wood d.k. Cover 2 1/2".
Rest 3". Cleats 24" apart. 2 tarp.
Luncheon opening on shelter d.k. 4'7" x 21'0". Coam. 9" above wood d.k. Cover 2 1/2".
(efficiently secured). Rest 3". No tarpaulins.
Hatch on shelter d.k. to fore peak. 6'0" x 4'2". Coam. 9" x 3" x 40 B.A. Cover 2 1/2".
Rest 3". Cleats 30" apart. 2 tarpaulins.
Cooling hatch on bridge d.k. 16'6" x 21'0". Coam. 9" x 3" x 40 B.A. 3 webs 23 x 50
deck ang. 5 x 32 x 50. Cover 2 1/2". Rest 3". Cleats 24" apart. 2 tarpaulins.
Cooling hatches on bridge d.k. 2'0" x 11'3" x 5'3". 2'0" x 16'6" x 5'3". Coam. 9" x 3" x 40 B.A.
Cover 2 1/2". Rest 2 1/2". Cleats 24" apart. 2 tarpaulins.
Escape hatches on shelter d.k. 19'0" x 2'6" x 2'6". Coam. 9" x 3" x 40 B.A. Hinged flush
cover 2 1/2". Rest 2 1/2". Cleats 18" apart. 2 tarpaulins.

Particulars of Companionways:—

Companionway to deck head in fore d.k. house.
Opening 4'4" x 24" closed by hinged steel
door manipulated from both sides.
Sill 27" high.
Companionway to crew op. in poop, from d.k. house
on poop. openings (2) 5'0" x 24" closed by hinged wood
door, manip. from both sides. Sill 18 1/2" high.

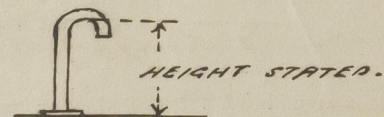
1 vent. on fore d.k. 9" dia. Coam. 36" x 32" to deck head.
1 " " 12 " " 36" x 34" to peak store.
2 " " 20 " " 36" x 40" to hold & T. d.k.
2 " " 18 " " 36" x 40 " " "
2 " on shelter d.k. 23 x 21 1/2. " 54" x 40" to hold, protected
by forecastle.
2 " " 16" dia. " 36" x 38" to lower d.k.
2 " " 10 " " 30" x 32 " " "
2 " " 16 " " 36" x 38 " " "
2 " " 15 " " 54" x 36" to deep T. stowed.
2 " " 14 " " 117" x 36" to low d.k.
2 " " 22 " " 83" x 40" to hold & low d.k.
4 " " 14 " " 33" x 36" to lower d.k.
2 " on after Masthouse top. 20" dia. " 30" x 40" to hold & low d.k.
2 " " 22 " " 30" x 40 " " "
2 " poop d.k. 20 " " 30" x 40 " " "

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

2 on poop d.k. 12" dia. 27" (ab. wood d.k.) x 34" to crew.
2 " " 12 " Coam. 30" x 34 " "
1 " " 9 " " 30" x 32" to steer. gear.
1 on poop deckhouse top. 9" dia. Coam. 24" x 32 " "
1 " " 20 " " 60" x 40" to tunnel.
2 on bridge d.k. 10" dia. Coam. 30" x 32" to bunker.
2 " " 15 " " 30" x 38 " "
2 " " 9 " " 30" x 32 " "
2 " " 20 " " 30" x 40 " "

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

1 on fore d.k. 4" dia. 28" high. to fore peak tank.
1 " " 4 " 28 " to S.P. tank.
18 " shelter d.k. 4 " 28 " to copperdom.
2 " " 3 " 28 " to copperdom.
2 " " 2 " 31 " to aft peak tank.
2 " poop d.k. 3 " 28 " to aft peak tank.



Particulars of Gangway Cargo and Coaling Ports:—

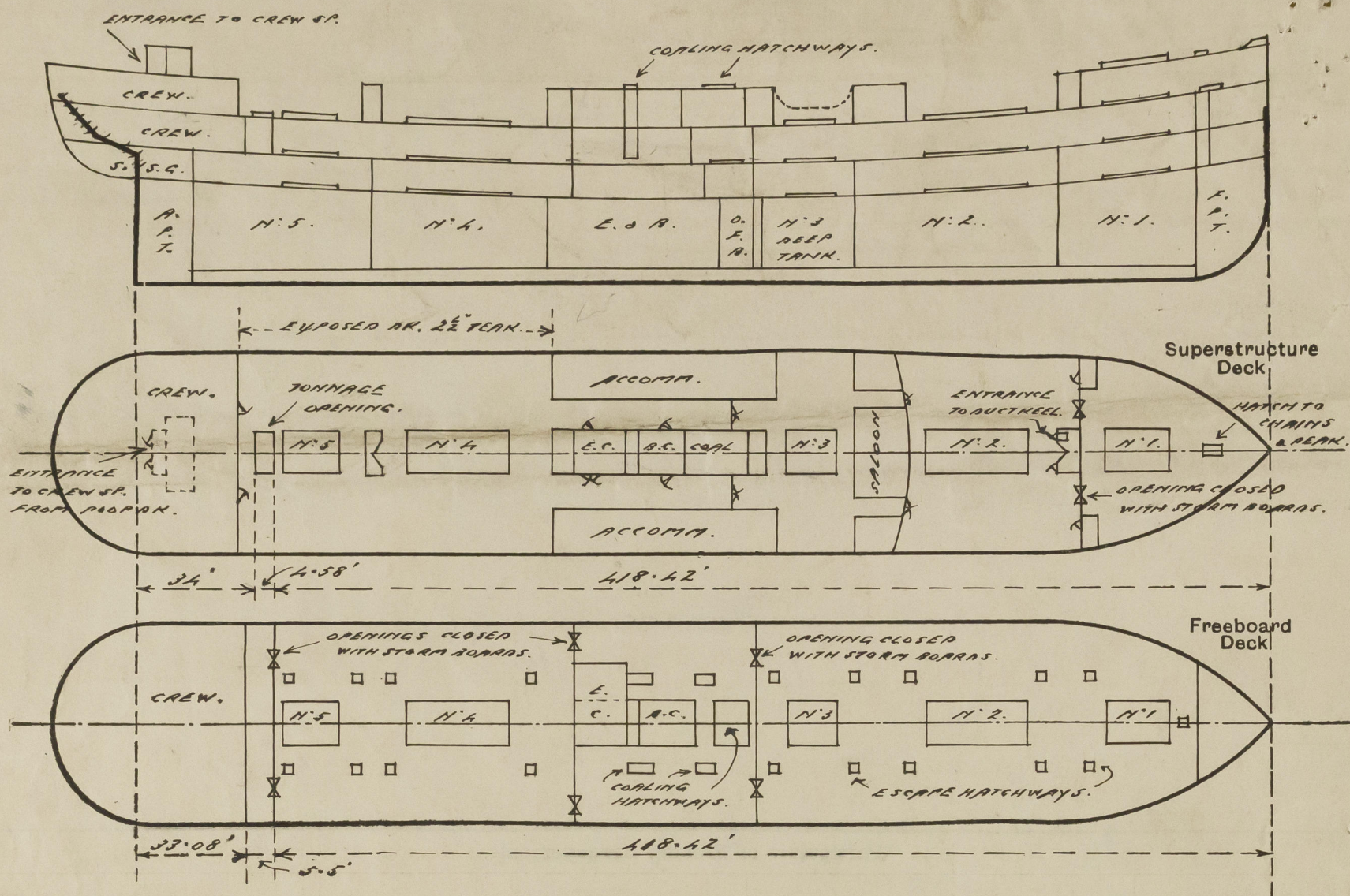
2 on shelter d.k. inside alleyway 2' dia. 18" high to cof.
10 " " " 3 " 18 " to S.P. tank.

None.

Openings of air pipes to oil fuel S.P. tanks closed
by wire gauge.
Remainder fitted with canvas covers.

Clan Cameron

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 has been built in accordance with the approved plans & in general conformity with the Society's Rules for the class contemplated. The approved plans of Midships Section & Profile & Deck plans are forwarded for reference. Freeboard request forwarded. The vessel is to be engaged in International Trade.

Please see Preliminary Assignment 6-12-35.

Full displacement @ 28.0' sp. draught 15804 tons. Length per inch 55.35
 D: @ 29.0 do. 16470 " D: 55.75

Builder's name and yard number The Greenock Dockyard Co. Ltd. No. 426.

Names of sister ships ✓

Owners The Clan Line Steamers Ltd.

Fee £ 18 — — —
 ESTIMATED.

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