

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>Forecastle Bridge & Rig Deck</u>					Port of Survey <u>Newcastle-on-Tyne</u>	
<u>KYLEGORM</u> (Type of Superstructures.)					Date of Survey <u>20th Oct 1932</u>	
Ship's Name <u>S. BROADGREEN</u>		Nationality and Port of Registry <u>British Liverpool</u>	Official Number <u>135551</u>	Gross Tonnage <u>622</u> ✓	Date of Build <u>1914-2</u>	
Moulded Dimensions: Length <u>175.0'</u> Breadth <u>28.0</u> Depth <u>13.0</u>					Name of Surveyor <u>R. Rubeli</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>1140</u> tons					Particulars of Classification <u>+100. A1.</u>	
Coefficient of fineness for use with Tables <u>.737</u> ✓					<u>S.S. She No. 3-12-26</u> <u>S.S. She No. 1-31</u> ✓	
Depth for Freeboard (D)		Depth correction			Round of Beam correction	
Moulded depth <u>13.00</u>		(a) Where D is greater than Table depth (D-Table depth) R = <u>(13.04 - 11.67) 1.346 = + 1.84" ✓</u>			Moulded Breadth (B) <u>28.00'</u>	
Stringer plate <u>.04</u>		(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>			Standard Round of Beam = $\frac{B \times 12}{50} = \frac{6.72}{50} = 7.2$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		If restricted by superstructures <u>✓</u>			Ship's Round of Beam = <u>7.2</u>	
Depth for Freeboard (D) = <u>13.04</u>					Difference <u>.28"</u>	
					Restricted to <u>✓</u>	
					Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.28}{4} \times .2558 = -.02"$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure <u>6.00</u> ✓
" overhang						" " R.Q.D. <u>3.50</u> ✓
R.Q.D. enclosed	<u>96.0</u>	<u>96.00</u>	<u>4.0</u>	<u>✓</u>	<u>96.00</u>	Deduction for complete superstructure <u>23.50</u> ✓
" overhang	<u>0</u>					Percentage covered $\frac{S}{L} = \frac{78.86}{100} = 78.86\%$ ✓
Bridge enclosed	<u>9.0</u>	<u>9.00</u>	<u>7.0</u>	<u>✓</u>	<u>9.00</u>	" " $\frac{S_1}{L} = \frac{74.42}{100} = 74.42\%$ ✓
" overhang aft	<u>0</u>					" " $\frac{E}{L} = \frac{74.42}{100} = 74.42\%$ ✓
" overhang forward	<u>0</u>					Percentage from Table, Line A. <u>68.43%</u> ✓
F'cle enclosed	<u>31.3</u>	<u>25.25</u>	<u>7.0</u>	<u>✓</u>	<u>25.25</u>	(corrected for absence of forecastle (if required))
" overhang	<u>1.9</u>					Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = $23.5 \times .6843 = -16.08"$ ✓
" forward						
Total	<u>138.00</u>	<u>130.25</u>			<u>130.25</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>27.50</u>	<u>1</u>		<u>27.50</u>	<u>28.25</u>	<u>28.25</u>	<u>1</u>		<u>28.25</u>	Mean actual sheer aft = <u>Excess</u>
1/4 L from A.P.	<u>12.24</u>	<u>4</u>		<u>48.96</u>	<u>13.03</u>	<u>13.03</u>	<u>4</u>		<u>52.12</u>	Mean actual sheer forward = <u>Excess</u>
2/4 L "	<u>3.03</u>	<u>2</u>		<u>6.06</u>	<u>3.25</u>	<u>3.25</u>	<u>2</u>		<u>6.50</u>	Mean standard sheer aft
Amidships	<u>✓</u>	<u>4</u>		<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>		<u>✓</u>	Mean standard sheer forward
3/4 L from F.P.	<u>6.05</u>	<u>2</u>		<u>12.10</u>	<u>6.22</u>	<u>6.22</u>	<u>2</u>		<u>12.44</u>	Length of enclosed superstructure forward of amidships = <u>.10</u>
1/4 L "	<u>24.47</u>	<u>4</u>		<u>97.88</u>	<u>24.88</u>	<u>24.88</u>	<u>4</u>		<u>99.52</u>	" " aft of " = <u>.50</u>
F.P.	<u>55.00</u>	<u>1</u>		<u>55.00</u>	<u>56.50</u>	<u>56.50</u>	<u>1</u>		<u>56.50</u>	
Total	<u>247.50</u>			<u>247.50</u>	<u>271.21</u>	<u>271.21</u>			<u>271.21</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{23.71}{18} \left(.75 - \frac{.3942}{2} \right) = -.47"$ ✓

If limited on account of midship superstructure. ✓

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

Actual R.Q.D. Height. 48"
Standard R.Q.D. Height. 42"
Difference 6"

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 17.04 ✓
Summer freeboard = 4.42 ✓
Moulded draught (d) = 12.62 ✓Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{12.62}{4} = 3.15 = 3 \frac{1}{4}"$ ✓Addition for Winter North Atlantic Freeboard (if required) = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 1330$

Tons per inch immersion at summer load water line

 $T = 9.7$ Deduction = $\frac{\Delta}{40T}$ inches = $\frac{1330}{40 \times 9.7} = 3 \frac{1}{2}"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>1.84</u> ✓	
Deduction for superstructures		<u>16.08</u> ✓
Sheer correction		<u>.47</u> ✓
Round of Beam correction		<u>.02</u> ✓
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.	<u>48.00</u>	
	<u>49.84</u>	<u>16.67</u>
		<u>+ 33.27</u>
		Summer Freeboard = <u>53.12</u>

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:-

Tropical Fresh Water Line above Centre of Disc	<u>6 1/2"</u> ✓	Tropical Fresh Water Freeboard	<u>4' 5"</u> ✓
Fresh Water Line " " (limited)	<u>3 1/2"</u> ✓	Fresh Water " " (limited)	<u>3' 10 1/2"</u> ✓
Tropical Line " " (limited)	<u>3"</u> ✓	Tropical " " (limited)	<u>4' 1 1/2"</u> ✓
Winter Line below " "	<u>3 1/4"</u> ✓	Winter " "	<u>4' 8 1/4"</u> ✓
Winter North Atlantic Line " "	<u>5 1/4"</u> ✓	Winter North Atlantic " "	<u>4' 10 1/4"</u> ✓

25 OCT 1932

MARKING FORM

RECEIVED

MARKING FORM

RECEIVED

17/136

MARKING FORM

RECEIVED

20 APR 1934

MARKING FORM

RECEIVED

4 NOV 1932

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	No 1.		No 2		on casing top	
Dimensions of Hatchway	...	...	...	33' x 18'		29' 5" x 18'		15' x 7' 4"	
COAMINGS	Height above Deck	...	...	42"		42"		11"	
	Thickness	{	Sides	...	...	45"	...	40"	...
			Ends	...	...	45"	...	40"	...
	Stiffeners	...	...	...	...	45"	...	40"	...
	Brackets, Stays	...	...	2 Bkts 20"		2 Bkts 20"		✓	
HATCH BEAMS	Number	...	...	2		2			
	Spacing	...	...	10-6 5/12-4		9-3 1/11-6			
	Scantling and Sketch	...	...	Sketch		Sketch		✓	
		...	...	36-32 x 40		36-32 x 40			
		...	...	4-3 1/2		4-3 1/2			
	Bearing Surface	...	...	3		3			
FORE AND AFTERS	Number	...	...	3		3			
	Spacing	...	...	4-6		4-6			
	Unsupported Lengths	...	...	12-0 6/10-2		9-0 to 10-8			
	Scantling* and Sketch	...	...	Centre 10 1/2 x 8 1/2		Centre 10 1/2 x 8 1/2		✓	
		...	...	Wings 8 1/2 x 8 1/2		Wings 8 1/2 x 8 1/2			
	Bearing Surface	...	...	2 1/2		2 1/2			
HATCH COVERS	Material	...	...	W.P.		W.P.		W.P.	
	Thickness	...	...	2 1/2 x 3		2 1/2 x 3		2 1/2	
	How fitted	...	...	athw		athw		7ra	
	Bearing Surface	...	...	24		24		2 1/2	
Spacing of Cleats	...	...	...	24		24		22	
Number of Tarpaulins	...	...	...	2		2		2	

*Are wood fore and afters steel shod at bearing surfaces? *Yes at ends. Bearing in middle both of half rounds only.*
 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.*

Particulars of fiddle, funnel and ventilator coamings:—

*Stokehold gratings covered by strong steel hinged covers.
 Dealer. funnel & vents in efficient condition.
 Engine Room skylight of wood strongly constructed.*

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

*One on Bridge deck giving access into enclosed Bridge space.
 Enclosed in strong steel deckhouse. Steel door 5-2 x 2-0. Sill 13" above.
 Door operated both sides.
 One under foremast on up to giving access to lower foremast
 enclosed in steel house 30" x 25" x 7-0 high strongly constructed
 Steel door 4-5 x 2-1. Sill 18".
 No locking arrangements.*

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

*On fore head one 8" dia x 16" high to fore peak
 On fore well deck one 9" dia x 3-2" high
 On Bridge deck one 6" dia x 18" to fore space
 On aft deck one 9" dia x 30" high to hold.*

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

*On fore head one 3 1/2" goose neck 7" diameter 5' 14" high to fore peak
 - fore well deck two - - - 1-8 1/2" - - - } CAB.
 - aft - - - - - 7" - - - 5' 14" high }
 - - deck one - - - 7" diameter 5' 14" - to aft peak }*

*wood plating
 in closing
 appliances
 provided*

Particulars of Gangway Cargo and Coaling Ports:—

None.



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Particulars of Scuppers and Sanitary Discharge Pipes:—

We are discharges below upper deck line
fixed with ships side valve
We are discharges below upper deck line
fixed with ships side valve

Particulars of Side Scuttles:—

Sidelights in upper & lower forecables fixed with
strong hinged deadlights.
No sidelight this shell in Br. side.

Particulars of Guard Rails:—

Bulwark in wells on Br. side
Rails on side 3-0 high 2 rails. Stations 4-0 apart.

Particulars of Gangways, Lifelines, etc.:—

~~There~~

Provision is made for rigging
lifelines as required for the use 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	96-0	3-3	2-6 x 1-6 2-8 x 1-6 1/2	3. 2.	4-25 ft 19 1/4	19.2 ft
Forward Well	38-9	4-2	2-6 x 1-6	3.	11-25 ft	10.4 ft
State position of each freeing port } After Well:— 11-4 : 37-10 : 67-8 } from Br. Buld. 7" above deck (F. and A. position and height above deck edge) } Forward Well:— 4-5 : 16-4 : 28-1 } 12" " "						
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 ...		Completely closed up.				no openings	✓	4-0
Bridge, After Bulkhead								
Bridge, Forward Bulkhead		completely closed up.			Bolt T & B.	no openings	✓	7-0
Forecastle Bulkhead	7/20	6/20	3x3x 7/8 L	36"	none	4-6 x 2-0	18"	7-0
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	7/20	6/20	3x2 1/2 x 6/20	2-11"	Actual top	4-0 x 2-0	18"	6-6
Exposed Machinery Casings on Super-structure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	
Raised Quarter Deck Bulkhead ...	no openings
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	no openings
Forecastle Bulkhead	Steel hinged doors to side houses. 1" wood (WP) door to fore not all operated both sides.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	2 steel hinged doors to ER & BR. not operable both sides.
Exposed Machinery Casings on Super-structure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

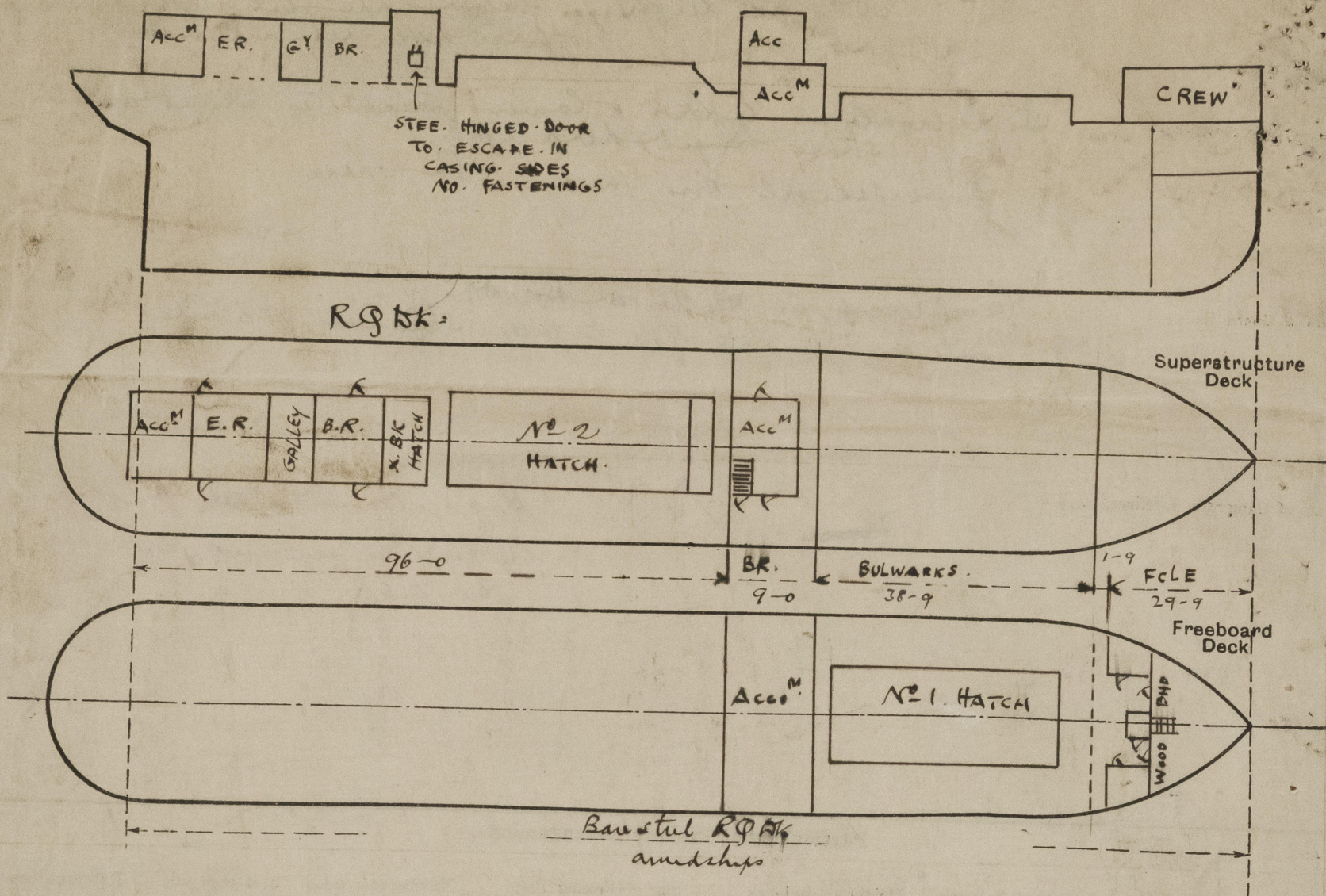


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Keygonmoe Broad Green

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



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

Vessel examined afloat for conversion
freeboard purposes only.
The crew are berthed forward in the
upper forecabin, aft, & amidships.
Lumber assignment not required.
No particulars available for Deep or TPI.

$(75 \times 12.5) = 10.13$ Ext. Draught = 9.63 mld. $\Delta_{ext} = 975$ tons.
85% DM = 11.06 $\Delta_{ext} = 975 + (1.43 \times 12 \times 10) = 1146$ tons = 1140 mld.

OM 17

Builder's name and yard number J. Dutton & Co Paisley

Names of sister ships ☒

Owners O. Dorey & Son Ltd.

Fee £ 6 : 16 : 0. Received by me



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