

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

 Index No. \_\_\_\_\_  
 (For London Office only.)

8/7/32.

GLASGOW REPORT No. 52616

 Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
 having *a Raised Quarter Deck, Bridge and Forecastle*
Port of Survey *Glasgow.*Date of Survey *13th June 1932*Name of Surveyor *A. M. Queen*Particulars of Classification *+ 100 A.1*

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
GIRASOL	British London Glasgow	149430	648	1926-10
Moulded Dimensions: Length 141.31 ✓ Breadth 24.45 ✓ Depth 13.412 ✓				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1106 ✓ tons				
Coefficient of fineness for use with Tables 714 ✓				

Depth for Freeboard (D)	
Moulded depth	<i>13.41</i>
Stringer plate	<i>R.Q.D. .36</i>
Sheathing on exposed deck	<i>T (L-S) =</i>
Depth for Freeboard (D) =	<i>13.45</i>

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R = <i>(13.45 - 11.42) 1.317</i> <i>= + 2.67</i>	
(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>✓</i>	
If restricted by superstructures	<i>✓</i>

Round of Beam correction	
Moulded Breadth (B)	<i>24.45</i>
Standard Round of Beam = $\frac{B \times 12}{50}$	<i>6.66</i>
Ship's Round of Beam	<i>4</i>
Difference	<i>.34</i>
Restricted to	
Correction = $\frac{\text{Diff}^{\circ}}{4} \times (1 - \frac{S_1}{L})$	<i>= \frac{.34}{4} \times .2424 = -.02</i>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Peep enclosed					
overhang					
R.Q.D. enclosed	<i>95.91</i>	<i>95.91</i>	<i>3'-6"</i>		<i>95.91</i>
overhang					
Bridge enclosed	<i>11.16</i>	<i>11.16</i>	<i>4'-0"</i>		<i>11.16</i>
overhang aft					
overhang forward					
Forecastle enclosed <i>see sketch</i>	<i>21.59</i>	<i>21.59</i>	<i>4'-0"</i>		<i>21.59</i>
overhang at side	<i>2.24</i>	<i>1.12</i>			<i>1.12</i>
Trunk aft at centre	<i>4.08</i>				
forward					
Tonnage opening aft					
forward					
Total	<i>130.90</i>	<i>129.78</i>			<i>129.78</i>

Standard Height of Superstructure	<i>6.00</i>
" " R.Q.D.	<i>3.475</i>
Deduction for complete superstructure	<i>23.13</i>
Percentage covered $\frac{S}{L} =$	<i>76.41%</i>
" " $\frac{S_1}{L} =$	<i>75.76%</i>
" " $\frac{E}{L} =$	<i>75.76%</i>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<i>70.08%</i>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = $23.13 \times .7008$	<i>= -16.21</i>

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>27.31</i>	1		<i>27.31</i>	<i>453.14</i>	<i>45.75</i>	1		<i>45.75</i>
$\frac{1}{4}$ L from A.P.	<i>12.15</i>	4		<i>48.60</i>	<i>19.2</i>	<i>19.75</i>	4		<i>80.20</i>
$\frac{2}{4}$ L	<i>3.00</i>	2		<i>6.00</i>	<i>5</i>	<i>4.94</i>	2		<i>10.14</i>
Amidships	<i>✓</i>	4		<i>✓</i>	<i>0</i>	<i>✓</i>	4		<i>✓</i>
$\frac{3}{4}$ L from F.P.	<i>6.00</i>	2		<i>12.00</i>	<i>9</i>	<i>8.89</i>	2		<i>17.78</i>
$\frac{1}{4}$ L	<i>24.30</i>	4		<i>97.20</i>	<i>35.2</i>	<i>35.55</i>	4		<i>142.20</i>
F.P.	<i>54.62</i>	1		<i>54.62</i>	<i>44</i>	<i>77.00</i>	1		<i>77.00</i>
Total	<i>245.79</i>			<i>245.73</i>					<i>373.39</i>

 Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{127.44}{18} = 7.08$  (if limited on account of midship superstructure, *✓*)

 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 = *125L*  
 " " aft of " = *5L*

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

 Depth to Freeboard Deck = *16.95*  
 Summer freeboard = *3.73*  
 Moulded draught (d) = *13.22*

 Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = *3.30* = *3 3/4*"  
 Addition for Winter North Atlantic Freeboard (if required) = *2*"

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 1332$ 

Tons per inch immersion at summer load water line

 $T = 9.4$ Deduction =  $\frac{\Delta}{40T}$  inches*= 3.55 = 3 1/2*"

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

*715 + 68 = 1394**1.36**1360*

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

*18.50**18.96**2.67**16.21**2.57**.02**42.00**44.67**18.80**+ 25.87**Summer Freeboard = 44.83*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, *Raised Quarter*

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line

Tropical Line

Winter Line below

Winter North Atlantic Line

Tropical Fresh Water Freeboard

Fresh Water

Tropical

Winter

Winter North Atlantic

*3'-8 3/4"**3'-4 1/2"**3'-5 1/4"**3'-8"**4'-0"**4'-2"*
*87.8*  
*16.6.32*

 MARKING FORM  
 11 FEB 1938  
 RECEIVED

 MARKING FORM  
 16 MAY 1935  
 RECEIVED

 MARKING FORM  
 8 JUL 1932  
 RECEIVED  
 3 AUG 1932

W483-0163 1/2



# PARTICULARS OF PROTECTION TO OPENINGS ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	No 1	No 2	ESCAPE HATCH TO FORE HOLD	ESCAPE HATCH TO AFTER HOLD	HATCH ON F'SCLE DECK	BUNKER HATCH ON CASING TOP	CIRCULAR HATCH TO AFTER PEAK		
Dimensions of Hatchway	31'4" x 16'0"	31'4" x 16'0"	1'10" x 2'3"	1'10" x 2'0"	2'0" x 1'10"	15'9" x 5'0"	18" DIAR		
COAMINGS	Height above Deck	3'4"	3'0"	18"	18"	14"	6"	12"	
	Thickness	42"	42"	30"	30"	30"	B.A.	C	
	Stiffeners	42"	42"	30"	30"	30"	COAMING	COAMING	
	Brackets, Stays	4" B.A.	4" B.A.	✓	✓	✓			
		2 BRACKETS	2 BRACKETS	✓	✓	✓			
HATCH BEAMS	Number	5	5						
	Spacing	5'2 3/4"	5'2 3/4"						
	Scantling and Sketch	15" x 34"	15" x 34"						
		3 1/2 x 3 x 42"	3 1/2 x 3 x 42"	✓	✓	✓	✓	✓	
	Bearing Surface	Double Lap Bottom	Double Lap Bottom						
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling and Sketch			✓	✓	✓	✓	✓	
	Bearing Surface								
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	STEEL	
	Thickness	2 3/8"	2 3/8"	2 1/2"	2 3/8"	2 1/2"	2 1/4"	BOLTED	
	How fitted	F+A	F+A	TRANS.	TRANS.	F+A	F+A	PLATE	
	Bearing Surface	3 1/2"	3 1/2"	2"	2"	2"	2 1/2"	BOLTS	
Spacing of Cleats	1'10"	1'9"	18"	15"	15"	2'9"	9" APART		
Number of Tarpaulins	2	2	2	2	2	2			
*Are wood fore and afters steel shod at all bearing surfaces? <i>none</i> Are battens and wedges efficient and in good condition? <i>yes</i> Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i> Are lashings provided in accordance with rule requirements? <i>Ringbolts are fitted for lashings</i>									

Particulars of fiddle, funnel and ventilator coamings:—

Engine Room Skylight made of steel strongly constructed  
 Fiddle openings on casing top protected by strong hinged plate cover  
 Funnel + Ventilators in good condition

Particulars of Flush Bunker Scuttles:—

NONE

Particulars of Companionways:—

Entrance to officers quarters on Bridge deck through steel house. Door 4'3" x 1'9" x 1 3/8" thick panelled teakwood door sill 18" operated both side

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

2 Vents to crew on Fore deck 9" high x 6" dia. x 25" thk  
 1 " " hold in forward well 36" " x 10" " x 30"  
 2 " " on Raised Quarterdeck 36" " x 10" " x 30"  
 3 Mushroom Vents to officers on Bridge deck 7" high x 6" " x 30"

Ventilators are constructed in accordance with the rules + closed with canvas covers. no wood plugs

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

1 air pipe on Forecastle deck to fore peak tank 12" high x 3" dia.  
 1 " " in Forward well deck to D.B. tanks 1'11" " x 3" "  
 2 " " on Raised Quarter deck " after Peak 2'0 1/2" " x 2 1/2" "  
 1 " " " " after Peak 2'0 1/2" " x 2 1/2" "

snifting holes not fitted to air pipes on upper + R.Q. Deck. No means of closing air pipes. wood plugs + canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

NONE



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Sanitary discharges from W.C.'s forward & aft fitted with storm valves at ships side.

Particulars of Side Scuttles:—

Side scuttles in crews quarters forward & midships fitted with hinged deadlights.  
There are no side scuttles below freeboard deck.

Particulars of Guard Rails:—

Guard Rails on Forecastle deck 3'-3" high, 2 rods. stanchions 4'-6" apart.  
Steel Bulwark on Bridge deck efficiently supported 3'-0" high.

Particulars of Gangways, Lifelines, etc.:—

Gangway along top of no. 1 hatchway with lifeline through stanchions in hatch side, stanchions spaced 12'-0" & 3'-9" high.  
Gangplanks from top of hatchway to ladder forward & aft.

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 ... ..	95.91	2'-11"	$\left\{ \begin{array}{l} 3'-0" \times 1'-6" * \\ 2'-6" \times 1'-3" \end{array} \right.$	$\left\{ \begin{array}{l} 3 \\ 32 \end{array} \right.$	$\left\{ \begin{array}{l} 19.75 \text{ sq. ft.} \\ 73.75 \text{ sq. ft.} \end{array} \right.$	19.18 #
Forward Well ... ..	39.99	3'-5"	$2'-6" \times 1'-6"$	3	11.25 - #	10.5

State position of each freeing port from Bridge Bldg. and A. position and height above deck edge) } After Well:— 6'-9", 25'-6", 49'-6", 71'-3", 4" above deck /  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— } Forward Well:— 1'-9", 13'-6", 24'-3", 9" /  
Additional area where sheer is less than standard. } Balanced plate shutters  
except ports marked \* which have 1 horizontal rod.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

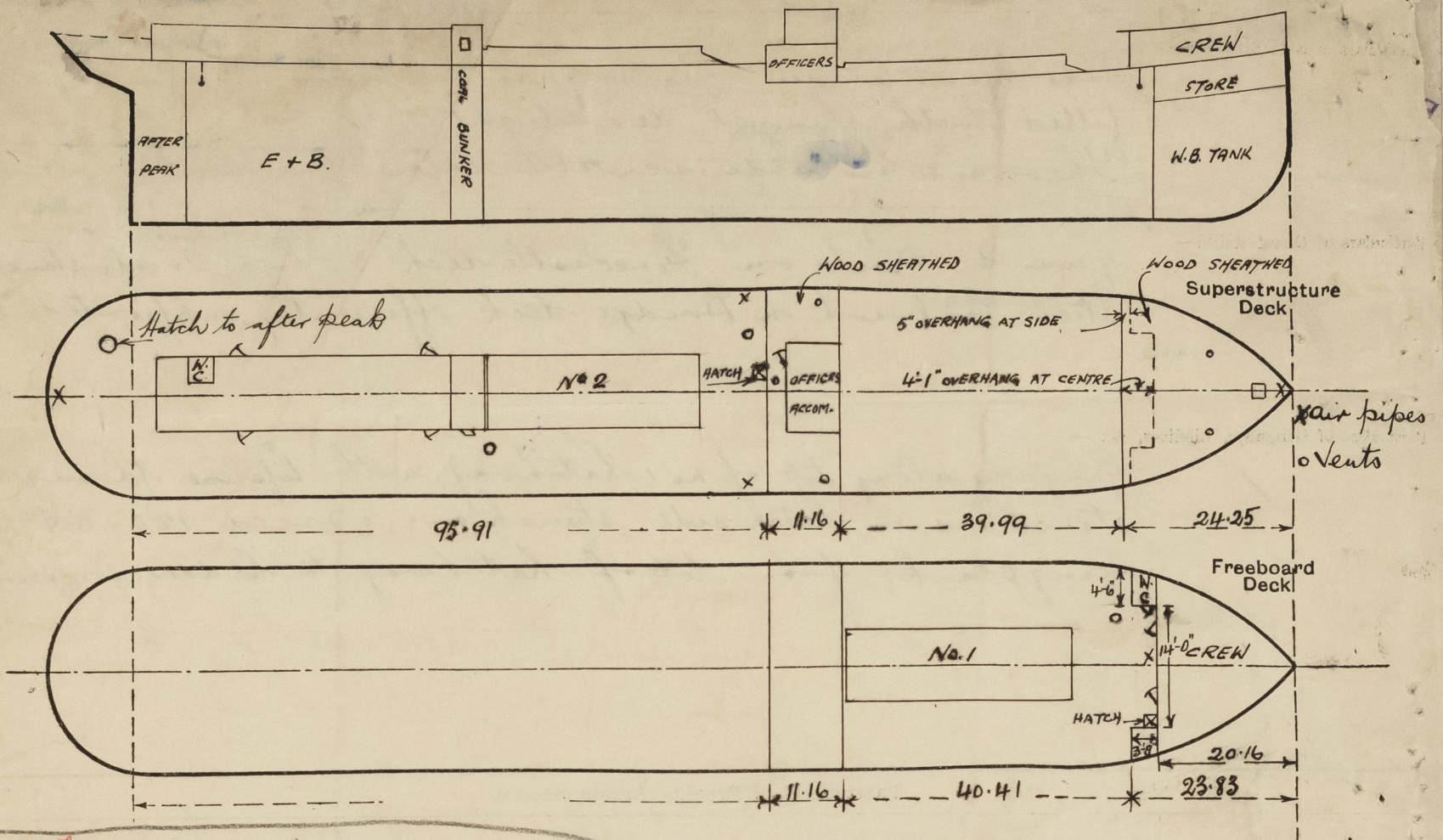
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Exposed Quarter Deck Bulkhead ... ..	none	.30"	3"x3"x.30"	3'-3"	none	none	none	3'-6"
Bridge, After Bulkhead ... ..	none	.38"	6"x3"x.36" B.A.	2'-8"	hugs at top none at bottom	none	none	4'-0"
Bridge, Forward Bulkhead ... ..	none	.30"	3"x3"x.30"	3'-6"	none	4'-6"x1'-10"	18"	4'-0"
Forecastle Bulkhead ... ..								
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	24"x.30"	.30"	3½"x3"x.34"	2'-8"	Brackets at top	4'-6"x1'-10"	18"	4'-0"
Exposed Machinery Casings on Super- structure Decks ... ..								
Machinery Casings within Superstruc- tures 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).

Deep Bulkhead ... ..	
Raised Quarter Deck Bulkhead ...	none
Bridge, After Bulkhead ... ..	
Bridge, Forward Bulkhead ... ..	none
Forecastle Bulkhead ... ..	Hinged steel doors operated both sides
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	Hinged steel doors operated both sides. Small hinged steel door to bunker shoot 1'-10" x 1'-8" sill 2'-6" operated both sides.
Exposed Machinery Casings on Super- structure Decks ... ..	
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	
Deckhouses on Flush Deck Ships ...	



Superstructure, masts, funnels, deckhouses, casings, and hatchways, and the thickness of plating 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:—



Fore castle 20.16  
 S. House  $\frac{45 \times 3.67}{11.50} = 1.43$   
 $\frac{21.59}{21.59}$   
 $\frac{23.83}{21.59}$   
 $\frac{2.24}{2.24} = \text{overhang}$

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

Coasting Trade  
 Timber Freeboard not required  
 This survey was held afloat and confined to an examination of the means for closing the openings in the decks & sides of the ship.

Displacement particulars obtained from Builders

mean Drafts	External Displacement	Tons per inch
12'-0"	1184 tons	9.25
13'-0"	1296 "	9.36
14'-0"	1409 "	9.48

omit

Builder's name and yard number J. Lewis & Sons Aberdeen Yard no. 99

Names of sister ships Asteria

Owners W. Robertson

Fee £ 6 : 16 : 0

Received by me

8.5% molder =  $\frac{11.4}{11.5}$   
 Keel =  $\frac{1.1}{11.5}$

$\frac{1184}{1129} = 1.048$   
 $\frac{1184}{1129} = 1.048$   
 $\frac{1184}{1129} = 1.048$



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