

26 JUL 1932

Index. No. 30408
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Mch. Lo. 7618

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

SHELTER DECK WITH T.O. AMIDSHIPS

Port of Survey *Manchester*Date of Survey *21st July 1932*Name of Surveyor *A.R. Gibbs*Particulars of Classification *+100A1**SS No. 2-30**SHELTER DECK WITH FREEBOARD*

Ship's Name

"RALLUS"

Nationality and Port of Registry

BRITISH LIVERPOOL

Official Number

147180

Gross Tonnage

1871

Date of Build

*1922**9.22 gmo.*Moulded Dimensions: Length *289.50*Breadth *42.33*Depth *21.17*

Moulded displacement at moulded draught = 85 per cent. of moulded depth

4,351 tons

Coefficient of fineness for use with Tables

.691

Depth for Freeboard (D)

Moulded depth ... *21.17*Stringer plate ... *.03*

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = *21.20*

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R =*(21.20 - 19.30) 2.227**1.90 x 2.227 = 4.23*(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) *42.33*Standard Round of Beam = $\frac{B \times 12}{50} =$ *10.16*Ship's Round of Beam = *10.5*

Difference

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ *.34 (.058)*

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>109.0</i>	<i>108.00</i>	<i>6' 8 1/2"</i>		<i>108.00</i>
„ overhang ...	<i>x 52.0</i>	<i>26.00</i>			<i>26.00</i>
R.Q.D. enclosed					
„ overhang					
Bridge enclosed...					
„ overhang aft ...					
„ overhang forward	<i>121.5</i>	<i>121.50</i>	<i>6' 8 1/2"</i>		<i>121.50</i>
„ overhang ...					
Trunk aft ...					
„ forward ...					
Tonnage opening ...	<i>8.00</i>	<i>17.00</i>			<i>17.00</i>
„ forward					
Total ...	<i>289.50</i>	<i>272.50</i>			<i>272.50</i>

Standard Height of Superstructure *6.395*

„ „ R.Q.D.

Deduction for complete superstructure *34.63*Percentage covered $\frac{S}{L} =$ *100*„ $\frac{S_1}{L} =$ *94.12*„ $\frac{E}{L} =$ *94.12*

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

Percentage from Table, Line B. *92.76*

(corrected for absence of forecastle (if required))

Interpolation for bridge less than .2L (if required)

Deduction = *32.12*

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<i>38.95</i>	<i>1</i>	<i>38.95</i>	<i>21.24</i>	<i>15.25</i>	<i>1</i>	<i>15.25</i>
1/4 L from A.P. ...	<i>17.33</i>	<i>4</i>	<i>69.32</i>	<i>8.49</i>	<i>20.14</i>	<i>4</i>	<i>80.56</i>
3/4 L „ ...	<i>4.28</i>	<i>2</i>	<i>8.56</i>	<i>2.12</i>	<i>4.98</i>	<i>2</i>	<i>9.96</i>
Amidships ...	<i>-</i>	<i>4</i>	<i>-</i>	<i>0</i>	<i>-</i>	<i>4</i>	<i>-</i>
3/4 L from F.P. ...	<i>8.57</i>	<i>2</i>	<i>17.14</i>	<i>3.54</i>	<i>9.60</i>	<i>2</i>	<i>19.20</i>
1/4 L „ ...	<i>34.67</i>	<i>4</i>	<i>138.68</i>	<i>17.17</i>	<i>38.83</i>	<i>4</i>	<i>155.32</i>
F.P. ...	<i>77.90</i>	<i>1</i>	<i>77.90</i>	<i>53.00</i>	<i>87.25</i>	<i>1</i>	<i>87.25</i>
Total ...			<i>350.55</i>	<i>74.44</i>			<i>397.54</i>

Correction = $\frac{\text{Difference between sums of products}}{18}$ $\left(.75 - \frac{S}{2L} \right) =$ *350.55**46.99**18**.25**.65*

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *21.20*Summer freeboard = *1.04*Moulded draught (d) = *20.16*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *5.04*Addition for Winter North Atlantic Freeboard (if required = *2*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ *4893 Tons*

Tons per inch immersion at summer load water line

 $T =$ *23.44 T. INCH*Deduction = $\frac{\Delta}{40 T}$ inches $=$ *5.29**5 1/4*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.691 + .68}{1.36} = \frac{1.37}{1.36}$ Depth Correction ... *4.23*Deduction for superstructures ... *32.12*Sheer correction ... *.65*

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

*4.23**32.77**28.54*Summer Freeboard = *12.6*

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

Tropical Fresh Water Line above Centre of Disc ... *10 1/4*Fresh Water Line „ „ ... *5 1/4*Tropical Line „ „ ... *5*Winter Line „ „ below „ „ ... *5*Winter North Atlantic Line „ „ below „ „ ... *5*Tropical Fresh Water Freeboard ... *1 - 0 1/2*Fresh Water „ „ ... *0 - 2 1/4*Tropical „ „ ... *0 - 7 1/4*Winter „ „ ... *0 - 7 1/2*Winter North Atlantic „ „ ... *1 - 1 1/2*Lloyd's Register
Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
SUPERSTRUCTURE DECK						FREEBOARD DECK				
Description of Hatchway	No. 1	No. 2	No. 3	No. 4	No. 5	No. 1	No. 2	No. 3	No. 4	No. 5
Dimensions of Hatchway	12'-0" x 16'-0"	26'-0" x 16'-0"	12'-0" x 16'-0"	26'-0" x 16'-0"	22'-0" x 16'-0"	13'-0" x 16'-0"	28'-4" x 16'-0"	12'-0" x 16'-0"	26'-0" x 16'-0"	22'-0" x 16'-0"
COAMINGS	Height above Deck	30"	SAME AS NO. 1 HATCH			9'-3 1/2" L	SAME AS NO. 1 HATCH			
	Thickness	44"				✓				
	Stiffeners	7-3/4" SIZES AND ENDS				✓				
	Brackets, Stays	NONE ✓				✓				
HATCH BEAMS	Number	2	4	6	4	3	2	4	1	4
	Spacing	4'-0"	5'-2 1/2"	6'-0"	5'-2 1/2"	5'-6"	4'-0"	5'-8"	6'-0"	5'-2 1/2"
	Scantling and Sketch	3 1/2" x 4 13 1/2" x 3 1/2 6 x 3 1/2" x 58	ANGLES AS NO. 1 HATCH 14 x 30 ANGLES AS NO. 1 HATCH	14 x 30 13 1/2" x 30 14 x 30	14 x 30	3 1/2" x 4 13" x 3 1/2 6 x 3 1/2" x 58	ANGLES AS NO. 1 HATCH 14 1/2" x 3 1/2 ANGLES AS NO. 1 HATCH	13 x 3 1/2 15" x 3 1/2	15" x 3 1/2	15" x 3 1/2
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"
FORE AND AFTERS	Number									
	Spacing									
FORE AND AFTERS	Unsupported Lengths									
	Scantling* and Sketch									
FORE AND AFTERS	Bearing Surface									
HATCH COVERS	Material	N.P.	SAME AS NO. 1 HATCH			N.P.	SAME AS NO. 1 HATCH			
	Thickness	2 1/2"				2 1/2"				
	How fitted	F.E.A.				F.E.A.				
	Bearing Surface	3"				3"				
Spacing of Cleats	15"	21"	24"	22"	22"	24"				
Number of Tarpaulins	2	2	2	2	2	1				

• Are wood fore and afters steel shod at all bearing surfaces? ☒ ✓
Are batens and wedges efficient and in good condition? ☒ Yes ✓
Are tarpaulins in good condition and in accordance with rule requirements? ☒ Yes - EXCEPT NAHC STATES
KINGBOLTS PROVIDED FOR LASHINGS
Are lashings provided in accordance with rule requirements? ☒ Yes ✓
AT NOS 1, 2, 3, 4, 5. HATCHCOX S.S. 20

003 HATCH NAYS.
T.O. HATCH.
8'-0" = 16'-0" : 15' = 40 Coaming : 1 Hatch Beam.
15' = 32' : angles 3 1/2" x 3 1/2" = 4 and 6 = 3 1/2" = 585 : 3' 9 1/2"
2 1/2" 4003 COVERS : 2 Tarpsalino ✓

X BUNKER HATCH BY FACEBOARD 34.
6'-0" x 16'-0" : 18" = 40 casing. cleats 18" : 1 Jorgensen
1 Hatch beam : 13" x 33" : angle as above : 25" angle
Coal Airway on Airbore Deck.
2-6'-0" x 5'-10" : 18" x 36 casing : 7 1/2" wood corner
cleats 21" apart. Bolts : one 1/2" Paraphenyl.
Hatch is 2nd Deck lower Stair on Deck. 18
2'-4" x 2'-4" : 3 x 3 angle casing. 2 1/2" wood corner
no cleats, bolts or Paraphenyl.
Hatch is 2nd Deck on Superstructure Deck.
2'-7 1/2" x 5'-3" : 24" = 40 casing : Angles Steel W.T.
Plate cover riveted by 2 Joggles.

Particulars of Flush Bunker Scuttles:—

NONE.

Particulars of Companionways :—

NONE.

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

10 Ventilators to Holes and Ins. W th	18 dia. x 36 coatings	35.	✓
2. " " Three Weeks	10" " " 36" " "	30	✓

The ventilators are strongly constructed and are closed by wood plugs and canvas covers which ~~are not complete~~

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

insects	Feet	Back	Tank	4 dia	14" to mouth
No 1 R.B.	2 1/2"			26"	
No 2	2 1/2"			26"	
Copitum	2 1/2"			26"	
Deep Tank	2 1/2"			26"	
No 5	2 1/2"			26"	
No 6	2 1/2"			26"	
apt. head	4"			24"	

wood plugs for closing air pipes provided.
~~no means of closing provided for air pipes.~~

Particulars of Gangway Cargo and Coaling Ports:—

King's Steel Doors in Green D^{rs} 1'-8" x 1'-8" secured on inside by clamps - 8" above dr. ed.
(in way of Bunkers). ✓
AND Thomas Hatcher.

Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Souppers and Sanitary Discharge Pipes —
 Scippers drawing $\frac{1}{2}$ inch and led overboard about 4'0" below Netbars Keel
 and are fitted with brass Steam Valves at ship's side. ✓

Particulars of Side Scuttles:

All accommodation is situated on Superstructure Deck

Particulars of Guard Rails :—

Particulars of Guard Rails:—
Guard Rails on Yawways and After Becks 3-7" High Stanchions 5-0' apart.
Strong Steel Bulwarks and ships 3-6" High and supported by $\frac{1}{2}$ " x 3 L Stays 5-6' apart.

Particulars of Gangways, Lifelines, etc. :—

NONE

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Starboard Well	8'-0"	6'-8 $\frac{1}{2}$ "	20" x 20"	1	2.49	✓
Port Well						

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.

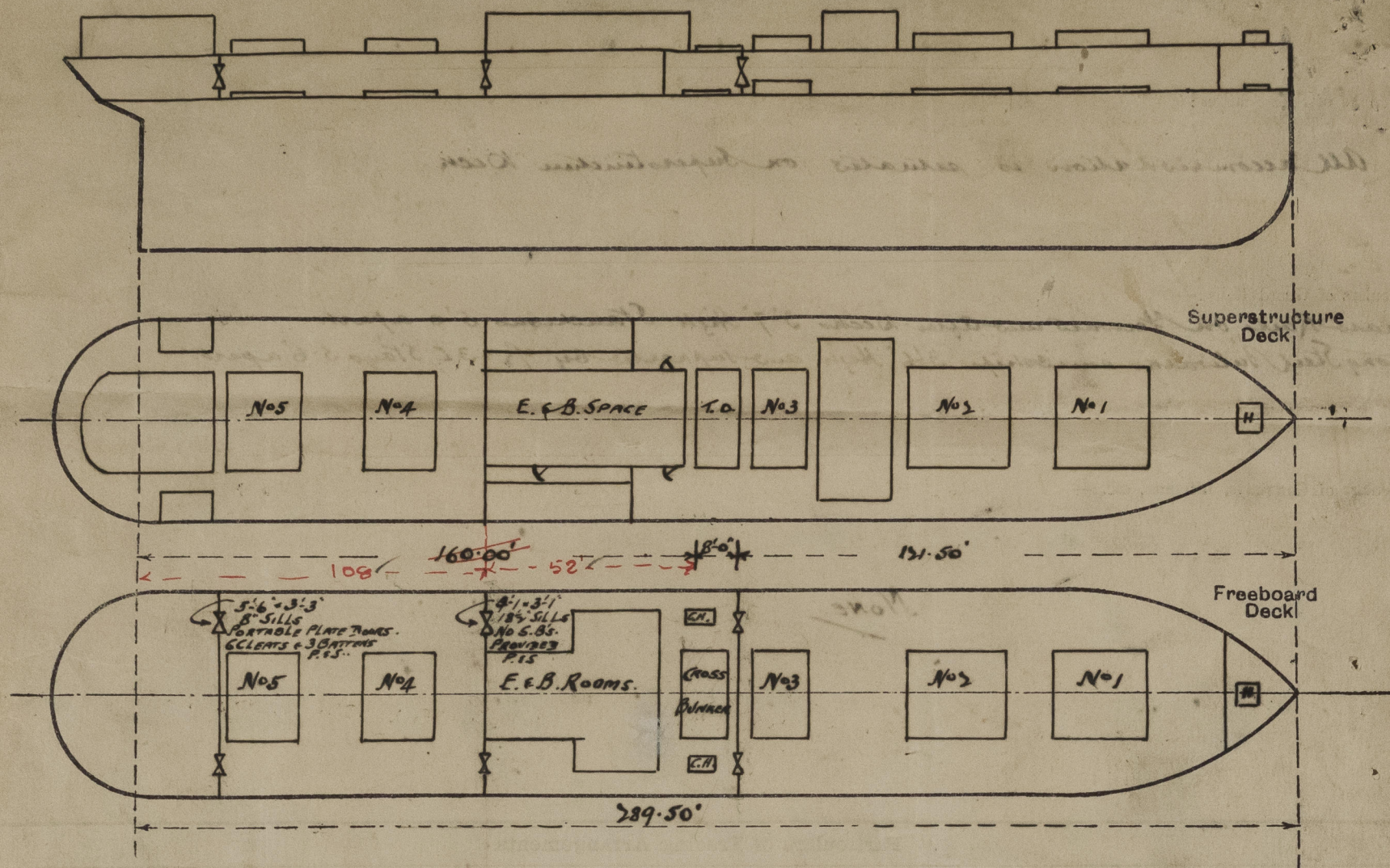
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	25	3½ x 3 x 30 L	27" 30"	NONE	4' 1" x 3' 1"	19" 18"	6' 8½"
Raised Quarter Deck Bulkhead ...				✓				
Bridge, After Bulkhead	✓	25	3½ x 3 x 30 L	✓ 39	None	4' 1" x 3' 1"	19"	6' 8½"
Bridge, Forward Bulkhead				✓				
Forecastle Bulkhead				✓				
Trunk, Aft				✓				
Trunk, Forward				✓				
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...				✓				
Exposed Machinery Casings on Superstructure Decks	35	30	3 x 3 x 32 L	27"	ENTS. animals at top.	1' 4" 10" x 3' 4" - L.R. 2' 4" 9" x 3' 4" - F.	18"	4' 3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	50	30	3 x 3 x 32 3 x 3 x 30	27" - L.R. 24" - B.A.	NONE	INTACT	✓	6' 8½"
Deckhouses on Flush Deck Ships ...				✓				

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

Pool Bulkhead	✓	2 3/4" S.B. full length in service channels	Hook bolted steel plate
Raised Quarter Deck Bulkhead	✓	2 3/4" S.B. full length in painted channels	Hook bolted steel plate
Bridge, After Bulkhead	✓		
Bridge, Forward Bulkhead	✓		
Forecastle Bulkhead	✓		
Exposed Machinery Casings on Free-board or Raised Quarter Decks	✓		
Exposed Machinery Casings on Super-structure Decks	✓	Kings-Steel Doors operate from both sides	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	Intact	
Decks on Even Deck Ships	✓		

Rallies

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:—

VESSEL SURVEYED IN DRY-DOCK FOR CONVENTION FREEBOARD PURPOSES ONLY.

Δ at S.L.D. = 20'07" = 4893 T.P.I. = 23.44
 Δ at 19'57" = 4740 " = 23.34
 Δ " 19'17" = 4640 " = 23.26
 Δ " 18'9" = 4540 " = 23.18

THREE DECK HEIGHTS.

A.P. = 8'5"
 $\frac{1}{2}$ A = 7'4½"
 $\frac{2}{3}$ A = 21'5"
 $\frac{1}{2}$ F = 6'7"
 $\frac{2}{3}$ F = 6'11"
 $\frac{1}{6}$ F = 8'1½"
 F = 9'3"

Displacement

85% of 21.17 = 17.99
 Keel. 15
 18.14 = 18.14

Δ @ 18-9 = 4540.
 7.25 x 23 = 167
 4373
 22
 4351.

Shells

Builder's name and yard number SWAN. HUNTER & NIGHAM RICHARDSON, & CO. LD. No 1167.

Names of sister ships "LESTRIS"

Owners BRITISH AND CONTINENTAL S.S. CO. LD.

Fee £ 9.14

Received by me



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