

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

8 JUN 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Founders Bridge + R.Q.D.

(Type of Superstructures.)

Ship's Name <u>S. REDRIFF.</u>	Nationality and Port of Registry <u>British London</u>	Official Number <u>148620</u>	Gross Tonnage <u>1577</u>	Date of Build <u>1925-8.</u>
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Moulded Dimensions: Length 243.75 Breadth 36.5 Depth 20.5
Moulded displacement at moulded draught = 85 per cent. of moulded depth 3307 @ 17.5 tons
Coefficient of fineness for use with Tables .747

Port of Survey Newcastle
Date of Survey 7/6/32
Name of Surveyor J. B. Ellis
Particulars of Classification 1100 A1

<p>Depth for Freeboard (D)</p> <p>Moulded depth <u>20.5</u></p> <p>Stringer plate ... <u>46</u> <u>.04</u></p> <p>Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$</p> <p>Depth for Freeboard (D) = <u>20.54</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D - Table depth) R = <u>20.54 - 16.25 = 4.29</u> <u>1.875</u> = <u>+ 8.04</u></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth - D) R =</p> <p>If restricted by superstructures</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <u>36.5</u> <u>8.76</u></p> <p>Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>9</u></p> <p>Ship's Round of Beam = <u>9</u></p> <p>Difference <u>Even</u> <u>.24</u></p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.24}{4} \left(1 - \frac{.3266}{1} \right) =$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang	<u>95.75</u>				
R.Q.D. enclosed	<u>95.75</u>	<u>95.75</u>	<u>2-0</u>	<u>2.0</u>	<u>48.40</u>
" overhang	<u>50.83</u>	<u>45.59</u>			
Bridge enclosed	<u>49.65</u>		<u>7-0</u>		<u>45.59</u>
" overhang aft	<u>3</u>				
" overhang forward	<u>22.17</u>	<u>.37</u>			<u>.37</u>
F'cle enclosed	<u>22.17</u>	<u>22.17</u>	<u>7-0</u>		<u>22.17</u>
" overhang	<u>3</u>	<u>.25</u>			<u>.25</u>
Trunk aft	<u>25</u>				
" forward					
Tonnage opening aft					
" forward					
Total	<u>169.75</u>	<u>164.13</u>			<u>116.78</u>

Standard Height of Superstructure	<u>6.0</u>
" " R.Q.D.	<u>3.9575</u>
Deduction for complete superstructure	<u>30.375</u>
Percentage covered $\frac{S}{L} =$	<u>69.64</u>
" " $\frac{S_1}{L} =$	<u>67.34</u>
" " $\frac{E}{L} =$	<u>47.91</u>
Percentage from Table, Line A.	<u>30.22</u>
(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 =	<u>30.22 x 30.375 = - 9.18</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>34.37</u>	1		<u>34.37</u>	<u>36.00</u>	<u>34.37</u>	1		<u>34.37</u>
$\frac{1}{4}$ L from A.P.	<u>15.30</u>	4		<u>61.20</u>	<u>15.30</u>	<u>15.30</u>	4		<u>61.20</u>
$\frac{2}{4}$ L "	<u>3.78</u>	2		<u>7.56</u>	<u>4.00</u>	<u>3.78</u>	2		<u>7.56</u>
Amidships		4					4		
$\frac{3}{4}$ L from F.P.	<u>7.56</u>	2		<u>15.12</u>	<u>7.30</u>	<u>7.30</u>	2		<u>14.60</u>
$\frac{1}{4}$ L "	<u>30.59</u>	4		<u>122.36</u>	<u>29.23</u>	<u>29.23</u>	4		<u>116.92</u>
F.P.	<u>68.75</u>	1		<u>68.75</u>	<u>66.00</u>	<u>66.00</u>	1		<u>66.00</u>
Total				<u>309.36</u>					<u>300.65</u>

Mean actual sheer aft = Even
Mean standard sheer aft =

Mean actual sheer forward = Deficient
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = .096
" " aft of " = .500

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{8.71}{18} \left(.75 - \frac{.3482}{1} \right) = + .19$

If limited on account of midship superstructure, .19 NK
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.

Ft.
Depth to Freeboard Deck = 20.54
Summer freeboard = 2.62
Moulded draught (d) = 17.92

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.48 4 1/2
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

	+	-
Depth Correction	<u>8.04</u>	
Deduction for superstructures		<u>9.18</u>
Sheer correction	<u>.09</u>	
Round of Beam correction		<u>.02</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>8.23</u>	<u>9.20</u>

Summer Freeboard = 31.61

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

Tropical Fresh Water Line above Centre of Disc		Tropical Fresh Water Freeboard	
Fresh Water Line " "		Fresh Water " "	
Tropical Line " "		Tropical " "	
Winter Line below " "	<u>4 1/2</u>	Winter " "	
Winter North Atlantic Line " "		Winter North Atlantic " "	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway		No. 1.	No. 2.	No. 3.	No. 4.	on Coaming Top	on up the bulk head	Fore Peak	Aft Peak	To aft Peak	Hold. scupper	
Dimensions of Hatchway		24-6 29-3 x 17-6	38-6 x 25-0	28-6 x 28-0	28-0 29-3 x 28-0	14-3 x 5-10	7-10 x 3-7 1/2	23-4 x 19-4	17" dia	18" high	3" diameter	
COAMINGS	Height above Deck	3-6	3-6	3-6	3-6	1 1/2	18.	19"	26"	x 24" dia	x 24" dia	
	Thickness	Sides	.44	.44	.44	.44	.40	.50	.50	.50	.50	
		Ends	.44	.44	.44	.44	.40	.50	.50	.50	.50	
	Stiffeners	7 x 3 x 40 on 4 sides	7 x 3 x 40 on 4 sides	7 x 3 x 40 on 4 sides	7 x 3 x 40 on 4 sides	✓	✓	✓	✓	✓	✓	
	Brackets, Stays	2" Round Two.	2" Round Two.	2" Round Two.	2" Round Two.	✓	✓	✓	✓	✓	✓	
HATCH BEAMS	Number	FOUR.	FIVE	FIVE	FOUR.							
	Spacing	5-10	5-1	5-1	5-10							
	Scantling and Sketch	Plate	PL	PL	PL	PL						
		23 x 38	2 1/2 x 40	2 1/2 x 40	23 1/2 x 19 x 38	✓	✓	✓	✓	✓	✓	
		19 x 38 4 angle 5 x 3 1/2 x 46 4 x 3 x 44	4 angle 6 x 3 1/2 x 46	4 angle 6 x 3 1/2 x 46	4 angle 5 x 3 1/2 x 46	✓	✓	✓	✓	✓	✓	
Bearing Surface	3 1/2	2 1/2	2 1/2	3 1/2								
FORE AND AFTERS	Number											
	Spacing											
	Unsupported Lengths											
	Scantling* and Sketch			None		✓	✓	✓	✓	✓	✓	
	Bearing Surface											
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	Plate	W.T. Plate	Plate cover	Hinged cover	
	Thickness	3"	3.	3.	3.	2 1/2	2 1/2	cover 5"	cover 1/2"	1/2" with	cover	
	How fitted	7 x 2	7 x 2	7 x 2	7 x 2	7 x 2	7 x 2	7 x 2	4 lugs or cleats	bolted	4 lugs	
	Bearing Surface	3.	3.	3.	3.	2 1/2	2 1/2	manhole	hinged cover	manhole	4 lugs	
Spacing of Cleats		24"	22	22	23.	18-20	21					
Number of Tarpaulins		2	2	2	2	2.	none.	✓	✓	✓	✓	
*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/>												
Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/>												
Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/>												
Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/>												

Particulars of fiddley, funnel and ventilator coamings :—

Fidley Protectors fixed with hinged steel covers in good condition. ~~except for slotted plates has no cover.~~
Engine Room skylight of steel with shut flaps & bulldozers.
Fidley, funnel & vents in good order.

Particulars of Flush Bunker Scuttles:—

None. ✓

Particulars of Companionways :—

Entrance to crew quarters (all amidships) through Companion Pts
built into strong steel deck house on Por Deck. entered by solid teak
door 4'-0" x 2'-0". See 17". 1 1/2" thick. A framed with sides. ✓

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

On fore deck one 15" dia x 3-6 high to hold
at fore mast two 12" " x 3-5 " " " amply protected by hatch coaming
at bridge front one 15" dia x 2-6 above a 2-6 trunk. Top as per sketch
on after deck one 13" dia x 5-2 high shaped as above. Stone funnel top supplied
" " Two 12" dia x 3-7 high to hold. well protected by hatch
" " One 14½" " x 3-7 " " "

on Bridge St Jan 6 x 2 - 6 to 6 in
1. Gone near to Br Sp 5" dia x 19" h
2. Vents to Sak on Br St. Pres through
to Supplied by post dk
18" dia. 3-3 above Road d.
other vents not stays back
protected when stashed
~~Not~~ all fitted with plug covers

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

On Feb dead one 3" x 11" x 15" high smooth top
one 2½ x 3-0 to 4-2 2-6 smooth
Two 2½ x 3-2½. 2-8 - -
F:- Two 2½ x 20" x 15½. screw cap rope
Apt. Two 2½ x 2-9 x 3-3 high.
Two 2½ x 2-0 x 2-9 -
apt & one 3" x 11" x 15" high.

16" high ~~no plugs or covers.~~ ^{fitted}

Particulars of Gangway Cargo and Coaling Ports :—

None.

Discharges amidships. 3 wcs discharge below 70' (up) deck fitted with valves.
 Baths - basin drains: - { 2 above 70' dk with valves
 upper deck scupper through funnel bar { 3 below - - without
 except those at Bridge end { 5 below - - with valves.
 Wholes go through + help side just below up 50'. no valves.

Particulars of Scuppers and Sanitary Discharge Pipes —

Particulars of Side Scuttles:

Strong hinged deadlights fitted to sidelights in Bridge & Deck spaces.

Particulars of Guard Rails:—

on Deck 3-3 high 2 balls. chains. Stanchions 4-3.
 Bulwarks on Bridge & well decks.

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
After Well	95-9.	3-9	3-25' x 1-58' 3-3 x 1-7. 11" x 9" up.	3.	15.4	19.15
Forward Well	76-7.	3-10.	3-3 x 1-7. 12" up.	3.	15.4	15.31

State position of each freeing port } After Well:— from Por End 6-3, 33-3, 68-10.
 F. and A. position and height above deck edge) Forward Well:— " " 6-2 33-2 61-6. } open ports 2 long each.
 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.

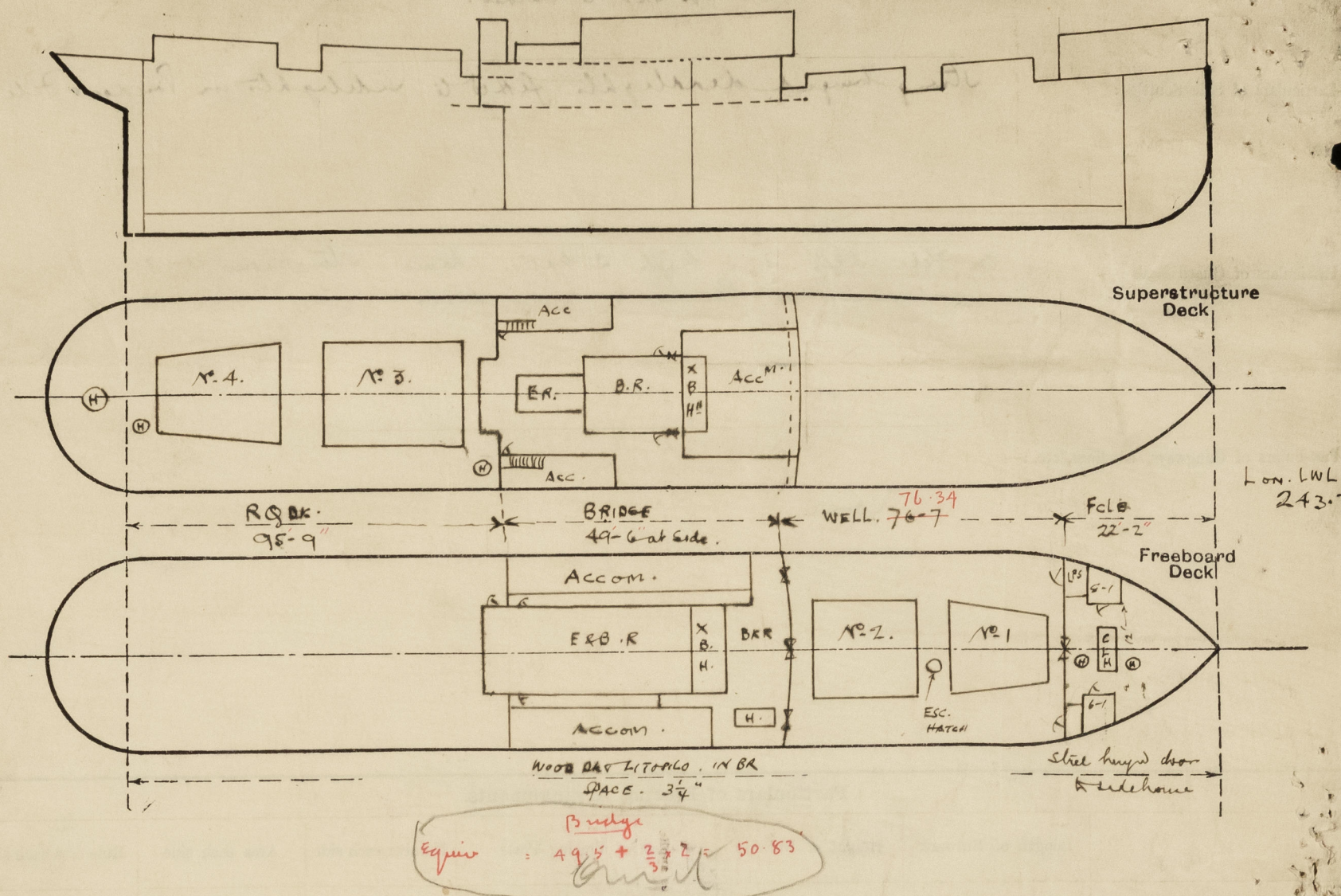
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	No prop.							
Raised Quarter Deck Bulkhead ... ..	.30	.30	5 x 3 x 7/8 or 3 x 2 1/2 x 5/8	5-0 to 2-6	none.	INTER. one 4-6 x 2-0	1-7	2-0
Bridge, After Bulkhead								7-0
Bridge, Forward Bulkhead ... ..	.36	.32	7 x 3 x 40 L	2-2.	hgs T & B.	one 4-9 x 3-0 P one 4-1 x 3-0 C one 4-9 x 3-0 S	17" 21" 19"	7-0
Forecastle Bulkhead ... ..	.30	.30	Flanges 3"	2-6.	none	4-6 x 3-6	19.	7-0
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ... ..	.30	.30	3 x 2 1/2 x 30.	2-5 1/2 2-10.	Bkts top.	Two. 4-6 x 2-0	19"	7-0.
Exposed Machinery Casings on Superstructure Decks ... ..	.30	.30	3 x 2 1/2 x 30.	2-10.	do	one P&S 22 x 24 one P&S. 4-6 x 2.	30 18 1/2	7-0
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	No prop.
Raised Quarter Deck Bulkhead	Ordinary steel hinged door operated both sides from R & Q with E.R.
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	one P. bolted plate hook bolts } center - one bolted plate } steel one. hinged steel door 4-3 x 1-9 secured by toggle sp. not thro plating 14" apart } hook bolts not thro plate } one side only, one backstop secured 5" to thro plating & one ch. plate at.
Forecastle Bulkhead	Rtd channels full ht at present fitted with 17 hinged pane door.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	ordinary steel hinged door operated both sides from enclosed Por Sp.
Exposed Machinery Casings on Superstructure Decks	ordinary steel door hinged to fully open both sides. flap doors 6 x 8 ft secured 1 side.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

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:—

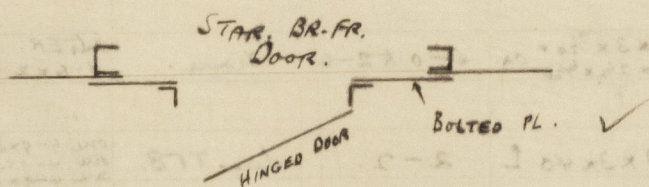
Vessel on platform for general overhaul & Freeboard purposes. Not due S.S.

Hatch on upper deck in fore space.

4-5 x 14-3. 9" Bal. Coaming cleats 24". Rest 3". Covers 7' x 2 1/2" W.P. No 2 to platform. Star side stowage hatch 4-3 x 2-0. 9" Bal. Coaming 2 1/2" rest. 2 1/2" W.P. Covers. Cleats 22" in

Crew all amidships.

Tons per inch @ 14' = 17.45. S.F. 14' 18' 20' 17.95 18.2



Builder's name and yard number

Lyne Don Shipbuilding Co Ltd

Names of sister ships

S/S. No 229.

Owners

South Meliopolis Gas Co.

Fee £

9 : 7 : 0

Received by me



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