

Rpt. C.11.

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Index. No. 25146  
(For London Office only.)

4 JUN 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Raised Quarter & Bridge + Fore Deck

Port of Survey Aberdeen.

(Type of Superstructures.)

Date of Survey June 2nd etc.

Ship's Name REDHALL.  
Nationality and Port of Registry British Aberdeen.  
Official Number 139800.  
Gross Tonnage 1093.  
Date of Build 1917.6.

Name of Surveyor T. Richardson.

Moulded Dimensions: Length 220.25 Breadth 33.25 Depth 16.41  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 2034.205 (13.106) tons  
Coefficient of fineness for use with Tables 710

Particulars of Classification 100.A.I.

Depth for Freeboard (D)

Moulded depth ... 16.41.  
Stringer plate ... R.Q.D. 48. M.D. 54. 04  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$

Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  
(16.46 - 14.68) 1.694 = 3.01  
(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R =

Round of Beam correction

Moulded Breadth (B) 33.25  
Standard Round of Beam =  $\frac{B \times 12}{50} = 7.98$   
Ship's Round of Beam = 8.2  
Difference .52  
Restricted to  
Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.52}{4} \times \frac{2123}{L} = 4.03$

Depth for Freeboard (D) = 16.46

If restricted by superstructures

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...	113.33				
R.Q.D. enclosed ...	131.00	115.33	3' 9"	3.75/3.802	113.75
" overhang ...					
Bridge enclosed ...	16.0	16.00	7' 0"		16.0
" overhang aft ...	6				
" overhang forward ...	1.6	.75			.75
Fore enclosed ...	23.9	23.75	7' 0"		23.75
" overhang ...	3.3	1.62	7' 0"		1.62
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	159.83	157.45			155.87

Standard Height of Superstructure 6.0  
" " R.Q.D. 3.802  
Deduction for complete superstructure 28.02  
Percentage covered  $\frac{S}{L} = 72.57$   
"  $\frac{S_1}{L} = 71.48$   
"  $\frac{E}{L} = 70.76$   
Percentage from Table, Line A.  
(corrected for absence of forecastle (if required))  
Percentage from Table, Line B. 63.93  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than 2L (if required) ✓  
Deduction = 28.02 + 63.93 = 17.93

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	32.02	1		32.02	30.29	29.75	1		29.75
1/4 L from A.P. ...	14.25	4		57.00	3.11	11.06	4		44.24
3/4 L " ...	3.52	2		7.04	3.8	2.76	2		5.52
Amidships ...		4					4		
3/4 L from F.P. ...	7.04	2		14.08	8.8	7.50	2		15.00
1/4 L " ...	28.50	4		114.00	30.2	30.02	4		120.08
F.P. ...	64.04	1		64.04	72	73	1		73.00
Total ...	288.18			288.18					287.59

Mean actual sheer aft = Defic 7.75%

Mean actual sheer forward = Excess

Length of enclosed superstructure forward of amidships = Sheer defic ✓  
" " aft of " = ✓

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75 - S}{2L} \right) = \frac{.59}{18} \left( \frac{75 - 3991}{2} \right) = +.01$

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.

IN WAY OF MARKING  
Depth to Freeboard Deck = 20.21  
Summer freeboard = 4.77  
Moulded draught (d) = 15.44

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta = 2344$   
Tons per inch immersion at summer load water line  
T = 14.45  
Deduction =  $\frac{\Delta}{40T}$  inches = 4.05

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{710 + 68}{1.36}$

Depth Correction ... 301  
Deduction for superstructures ... 17.92  
Sheer correction ... 01  
Round of Beam correction ... 03  
Correction for Thickness of Deck amidships ... 45.00  
Other corrections, scantlings, etc. ...

26.65  
27.24  
48.02 17.95 + 30.07  
Summer Freeboard = 57.31

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

Tropical Fresh Water Line above Centre of Disc ... 7 3/4  
Fresh Water Line " " ... 4  
Tropical Line " " ... 3 3/4  
Winter Line below " " ... 3 3/4  
Winter North Atlantic Line " " ... 5 3/4

Tropical Fresh Water Freeboard ... 4-9 1/4  
Fresh Water " " ... 4-1 1/2  
Tropical " " ... 4-5 1/4  
Winter " " ... 4-5 1/2  
Winter North Atlantic " " ... 5-3



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	No 1. Fwd <sup>h</sup> FORWARD Fwd <sup>h</sup> D <sup>h</sup>	No 2.	BUNKER HATCH. Fwd <sup>h</sup> D <sup>h</sup>	No 3.	No 4.		
Dimensions of Hatchway	...	...	21.0 18.9 x 15.8	21.9 x 21.0	4.6 x 21.0	19.6 x 21.0	17.3 x 21.0		
COAMINGS	Height above Deck ... Thickness { Sides ... Ends ... Stiffeners ... Brackets, Stays ...	... ... ... ...	3.11" 4.4" 7 x 3 x 35 B.A. 2. 6 x 30. Bull <sup>h</sup>	4.1" 4.4" 7 x 3 x 35 B.A. (3) 6 x 30 Bull <sup>h</sup>	4.1" 4.4" 3rd end. 40 7 x 3 x 35 B.A. ✓	3.8" 4.4" 7 x 3 x 35 B.A. (3) 6 x 30 Bull <sup>h</sup>	3.8" 4.4" 7 x 3 x 35 B.A. (2) 6 x 30 Bull <sup>h</sup>		
HATCH BEAMS	Number ... Spacing ... Scantling and Sketch ... Bearing Surface ...	... ... ... ...	6.3" Plats 2 1/2 x 2 1/2 x 40. Ang <sup>h</sup> 4 x 3 x 14 <sup>h</sup>	7.3" as 40.1.	✓	6.6" Plats 2 1/2 x 18 x 40. Ang <sup>h</sup> 4 x 3 x 14 <sup>h</sup>	5.9" Plats 1 1/2 x 17 x 40. Ang <sup>h</sup> 4 x 3 x 14 <sup>h</sup>		
FORE AND AFTERS	Number ... Spacing ... Unsupported Lengths ... Scantling* and Sketch ... Bearing Surface ...	... aft. end ... ... ...	5. 3.6" 6.3" Oak. Oak. 2 3/4"	5. 3.6" 7.3" 7" x 7" 3 1/2 x 6 3/4 3"	1. m. cv. 40" plate 3/4" depth of Coaming riveted to ends ✓	5. 3.6" 6.6" 7" x 6 1/2" 6" x 5 1/2" 3"	5. 3.6" 5.9" as 40.3. ✓		
HATCH COVERS	Material ... Thickness ... How fitted ... Bearing Surface ...	... ... ... ...	W.W. 3" Shwail <sup>h</sup> 3 lips 2 1/2" on F & A. 2.0" 2.	W.W. 3" Shwail <sup>h</sup> 3 lips 2 1/2" on F & A. 2.0" 2.	W.W. 3" 3 & a. 3" 2.0" 2.	W.W. 2 3/4" Shwail <sup>h</sup> 3 lips 2 1/2" on F & A. 2.0" 2.	W.W. 2 1/2" Shwail <sup>h</sup> 3 lips 2 1/2" on F & A. 2.0" 2.		
Spacing of Cleats	...	...	2.0"	2.0"	2.0"	2.0"	2.0"		
Number of Tarpaulins	...	...	2	2	2	2	2		
*Are wood fore and afters steel shod at all bearing surfaces? Yes. 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. 4. each Hatch.									

Particulars of fiddley, funnel and ventilator coamings :—

Stroke Hold Gratings covered by plate covers, ~~not~~ permanently fixed by steel hinge.  
 Dredge & Tunnel Berth in efficient condition  
 Engine skylight of steel, strongly constructed  
 Galley skylight of steel with Teak Top.

Particulars of Flush Bunker Scuttles:—

now. /

Particulars of Companionways :—

Entrance to Saloon Accommodation from Deck House on Bridge. Teak Door 4'6" x 1'11". 15" sill. —  
operated from both sides. Similar Door on Starboard side into Chart House. Door frames 2" x 1" panels. —

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

Dimensions of openings in exposed positions on freeboard and superstructure decks:—				
1.	Vent. on	Star Bk	10½" diam.	Cooming 20" x 2" led to fore hold ✓
3.	" "	Star Bk	10½" "	" 36" x 2" " " " ✓
1.	" "	" "	10½" "	" 36" x 2" " " ✓ Cross Bunker.
4.	" "	R.Q. Bk	10½" "	" 36" x 2" " " ✓ after hold.
1	" "	" "	6" "	" 36" x 2" " " ✓ Tunnel.

all Vents constructed in accordance with the Rules, and Coamings closed with iron plugs and Canvas Covers

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

1. C.I. air pipe on Forecastle Deck. 24" high x 2" diam<sup>t</sup> from Fore Peak. ✓  
 4. C.I. " " Foreboard Deck. 42" " x 2" " Double Bottom Tanks.  
 4. C.I. " " R. Q. Deck. 42" " x 2" " " "  
 1. C.I. " " " 42" " x 2" " " 3. W. Tank. "  
 1. C.I. " " " 36" " x 5½" " " after Peak Tank. "  
 No Wood plug or Canvas Covers fitted.

Particulars of Gangway Cargo and Coaling Ports:—

None.

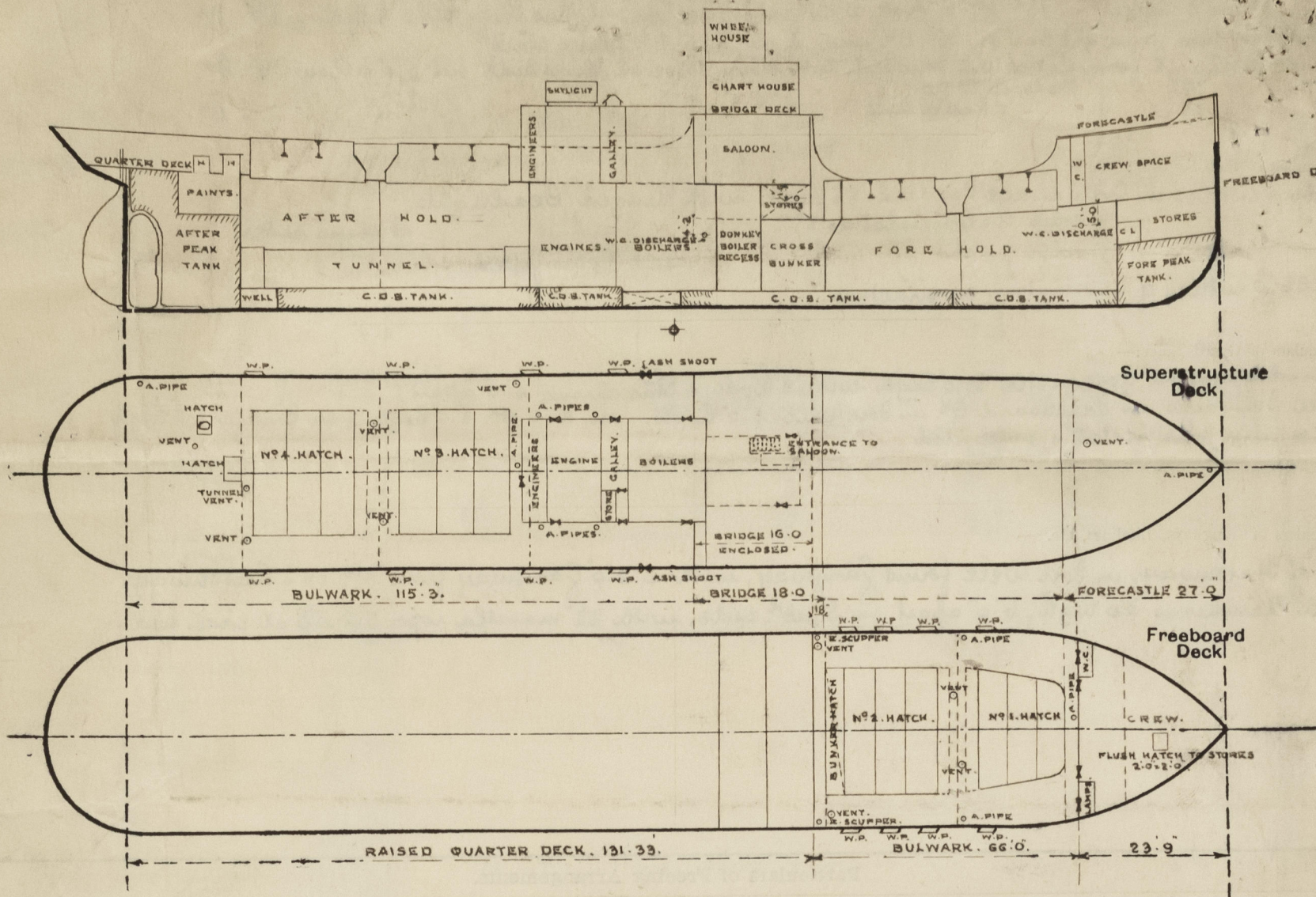


Lloyd's Register  
Foundation



Redhall

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 is generally engaged in the Home & Continental Coal Trade.

Timber Freeboard not required.

Vessel surveyed Afloat and confined to an examination of the means for closing the openings in the Decks and sides of the vessel.

Particulars of Displacement as received from the Builders.

Displ. at 14' 0" W.L. (extreme Draught)	2073 Tons.	Tons per Inch:	14.25.
" " 15' 0" " " "	2246 "	" " "	" 14.40.
" " 16' 0" " " "	2422 "	" " "	" 14.55.

Builder's name and yard number Hall Russell & Co. Ltd. Yard No. 599.

Names of sister ships "Ferryhill" 20814 in Reg.

Owners Aberdeen Coal & Shipping Co. Ltd. Aberdeen

Fee £ 8 : 10 : 0. Received by me [Signature]



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