

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <i>Newcastle</i>	
having <i>Fourmule R &amp; B</i>					Date of Survey <i>19th Oct 1932</i>	
(Type of Superstructures.) <i>As per Table</i>					Name of Surveyor <i>J. H. Webster</i>	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build		
<i>S. ARDGRYFE</i>	<i>British</i> <i>Greenock</i>	<i>142318</i>	<i>483</i> <del>not</del> <i>475</i>	<i>1918-3</i>		
Moulded Dimensions: Length <i>199.7</i> Breadth <i>31.0</i> Depth <i>15.6</i>					Particulars of Classification <i>100 A 1</i>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>1759</i> tons					<i>SS. LK. No. 3-7.29</i>	
Coefficient of fineness for use with Tables <i>754</i>						
Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth ... .. <i>15.50</i>			(a) Where D is greater than Table depth (D-Table depth) R = <i>(15.54 - 13.31) 1.536 = +3.42</i>		Moulded Breadth (B) <i>31</i>	
Stringer plate ... .. <i>.04</i>			(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{31 \times 12}{50} = 7.44$	
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$			If restricted by superstructures		Ship's Round of Beam = <i>7.34</i>	
Depth for Freeboard (D) = <i>15.54</i>					Difference <i>31</i>	
					Restricted to	
					Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{31}{4} \left( 1 - \frac{80.72}{192.8} \right) = -1.79$	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..						Standard Height of Superstructure <i>6'-0"</i>
overhang ... ..						" " R.Q.D. <i>3.665</i> <i>25.97</i>
R.Q.D. enclosed ... ..	<i>139.46</i>	<i>139.46</i>	<i>4.00</i>	<i>✓</i>	<i>139.46</i>	Deduction for complete superstructure
overhang ... ..						Percentage covered $\frac{S}{L} = \frac{81.48}{80.72} = 81.48$
Bridge enclosed ... ..						" " $\frac{S_1}{L} = \frac{80.72}{80.72} = 80.72$
overhang aft ... ..						" " $\frac{E}{L} = \frac{80.72}{80.72} = 80.72$
overhang forward ... ..	<i>20.26</i>	<i>20.26</i>	<i>6.66</i>	<i>✓</i>	<i>20.26</i>	Percentage from Table, Line A. <i>76.19</i>
Fore enclosed ... ..	<i>22.75</i>	<i>20.26</i>	<i>1.49</i>	<i>✓</i>	<i>20.26</i>	(corrected for absence of forecastle (if required))
overhang ... ..	<i>2.99</i>	<i>1.49</i>			<i>1.49</i>	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 = <i>25.97</i> $\times$ <i>76.19</i> = <i>-19.79</i>
forward ... ..						
Total ... ..	<i>162.71</i>	<i>161.21</i>			<i>161.21</i>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<i>29.97</i>	<i>1</i>	<i>✓</i>	<i>29.97</i>	<i>39.02</i>	<i>43.02</i>	<i>1</i>	<i>✓</i>	<i>43.02</i>	Mean actual sheer aft = <i>EXCESS</i>
$\frac{1}{2}$ L from A.P. ... ..	<i>13.34</i>	<i>4</i>	<i>✓</i>	<i>53.36</i>	<i>17.38</i>	<i>19.14</i>	<i>4</i>	<i>✓</i>	<i>76.56</i>	Mean standard sheer aft = <i>EXCESS</i>
$\frac{2}{3}$ L " ... ..	<i>3.30</i>	<i>2</i>	<i>✓</i>	<i>6.60</i>	<i>4.33</i>	<i>4.73</i>	<i>2</i>	<i>✓</i>	<i>9.46</i>	Mean actual sheer forward = <i>EXCESS</i>
Amidships ... ..	<i>-</i>	<i>4</i>	<i>✓</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>4</i>	<i>✓</i>	<i>-</i>	Mean standard sheer forward = <i>EXCESS</i>
$\frac{2}{3}$ L from F.P. ... ..	<i>6.59</i>	<i>2</i>	<i>✓</i>	<i>13.18</i>	<i>9.46</i>	<i>9.46</i>	<i>2</i>	<i>✓</i>	<i>18.92</i>	Length of enclosed superstructure forward of amidships = <i>.20</i>
$\frac{1}{2}$ L " ... ..	<i>26.67</i>	<i>4</i>	<i>✓</i>	<i>106.68</i>	<i>37.92</i>	<i>37.92</i>	<i>4</i>	<i>✓</i>	<i>151.68</i>	" " aft of " = <i>.50</i>
F.P. ... ..	<i>59.94</i>	<i>1</i>	<i>✓</i>	<i>59.94</i>	<i>83.00</i>	<i>83.00</i>	<i>1</i>	<i>✓</i>	<i>83.00</i>	
Total ... ..	<i>269.73</i>			<i>269.73</i>					<i>382.64</i>	
Correction = $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{112.91}{18} \left( .75 - \frac{407.4}{192.8} \right) = -2.15$										Actual height of R.Q.D. = <i>4.000</i>
If limited on account of midship superstructure. <i>✓</i>										Standard = <i>3.665</i>
										<i>.335</i>
										<i>4.02</i>

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<i>23.05</i>
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{754+68}{136} = \frac{1.434}{136}$	<i>24.30</i>
Depth to Freeboard Deck = <i>19.54</i>	$\Delta =$	Depth Correction ... .. <i>3.42</i>	
Summer freeboard = <i>4.48</i>	Tons per inch immersion at summer load water line	Deduction for superstructures ... .. <i>19.79</i>	
Moulded draught (d) = <i>15.06</i>	T =	Sheer correction ... .. <i>2.15</i>	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>3.77</i> <i>3.74</i>	Deduction = $\frac{\Delta}{40 T}$ inches = <i>3.74</i>	Round of Beam correction ... .. <i>.012</i>	
Addition for Winter North Atlantic Freeboard (if required) = <i>2</i>		Correction for Thickness of Deck amidships ... .. <i>48.00</i>	
		Other corrections, scantlings, etc. ... .. <i>-</i>	
		Summer Freeboard = <i>53.76</i>	

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

Tropical Fresh Water Line above Centre of Disc ... .. <i>7.5</i>	Tropical Fresh Water Freeboard ... .. <i>4'-5.5"</i>
Fresh Water Line " " ... .. <i>3.5</i>	Fresh Water " " ... .. <i>3'-10.5"</i>
Tropical Line " " ... .. <i>3.5</i>	Tropical " " ... .. <i>4'-2"</i>
Winter Line below " " ... .. <i>3.5</i>	Winter " " ... .. <i>4'-9.5"</i>
Winter North Atlantic Line " " ... .. <i>5.5</i>	Winter North Atlantic " " ... .. <i>4'-11.5"</i>

22 OCT 1932



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS														
			No 1.			No 2			No 3			No 4		
Description of Hatchway			26-3x16-0			43-0x16-0			3-10x3-0			10x10'		
COAMINGS	Height above Deck	...	3-6	...	3-6	...	15	...	15	...		...		
	Thickness	Sides	.48	...	.60	...	.40	...	.40	...		...		
	Stiffeners	Ends	.40	...	.40	...	.40	...	.40	...		...		
	Brackets, Stays	...	7x3x8/20	...	7x3x8/20	...	✓	...	✓	...		...		
HATCH BEAMS	Number	...	5	...	8	...		...		...		...		
	Spacing	...	4-4 1/2	...	4-9 1/2	...		...		...		...		
	Scantling and Sketch	...	Steel fl 19-14x40	...	Steel fl 19-14x40	...	✓	...	✓	...		...		
	Bearing Surface	...	3	...	3	...		...		...		...		
FORE AND AFTERS	Number	...	none	...	none	...	✓	...	✓	...		...		
	Spacing	...		...		...		...		...		...		
	Unsupported Lengths	...		...		...		...		...		...		
	Scantling* and Sketch	...		...		...		...		...		...		
HATCH COVERS	Material	...	W.P.	...	W.P.	...	W.P.	...	W.P.	...		...		
	Thickness	...	2 1/2	...	3	...	2 1/2	...	2 1/2	...		...		
	How fitted	...	7/8" a	...	7/8" a	...	athw	...	athw	...		...		
	Bearing Surface	...	3	...	3	...	2 1/2	...	2 1/2	...		...		
Spacing of Cleats			22-4		22		18		18		Steel 26 length covers in helices			
Number of Tarpaulins			2		2		2		2		Stippled inside with 2 1/2 x 2 1/2 x 1/20 all round edge & on 16" with four 4x4 wood			
											Stippled.			
											Rest on 3" (to covers)			
											Chats 24"			
											no tarpaulins			
											Secured by 6 (only) boggles.			
*Are wood fore and afters steel shod at all bearing surfaces? none														
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? Ring bolts & wire lashing														

Particulars of fiddle, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel covers (not damaged & attached)  
 Fiddle funnel vents in efficient condition  
 Engine Room skylight of wood strongly constructed.  
~~Some broken bull eye in 2nd floor.~~  
~~Fiddle skylight to repair.~~

Particulars of Flush Bunker Scuttles:—

Two 18" dia on R & L aft. Cast metal covers of strong construction with keyhole joints

Particulars of Companionways:—

Companionway built into forecabin, enclosed in steel bulkheads of strong construction. Door 4-3 x 22" teak panelled 1/2" x 1" thick  
 Not operated both sides. Sill 16".  
 Gives access to crew quarters below upper deck fore.

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

on fore head one 9" dia 14" high to lower fore  
 on aft 12" - 48" to hold. not stayed but protected by proximity to not below  
~~not all provided with efficient closing~~  
~~slugs & covers.~~

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

on fore deck one 2 1/2" C.I. air pipe to fore peak G.V. 7" opening  
 on aft 2" - - - - - COB. tank 23"  
 Two 2" - - - - - 18"  
 Two 2" - - - - - 22"  
 one 2" - - - - - 18"  
 - - - - - Toap. tank 11"  
 - - - - - 8 1/2"  
 not all provided with efficient closing slugs & covers.

Particulars of Gangway Cargo and Coaling Ports:—

none



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers through funnel bar -  
 W.C. Scuppers aft discharge below upper deck level & fitted with  
 Cranes we found discharge above upper deck - do ship side valves  
 Both - - - open end - do do.

Particulars of Side Scuttles:—

Side lights on lower side fixed with strong hinged deadlights -  
 but some places broken  
 - upper side fixed with strong hinged deadlights -  
 some tipples broken.

Particulars of Guard Rails:—

on funnel 3-3 high 2 rows chain rods. Stanchions 4-0 apart.

Particulars of Gangways, Lifelines, etc.:—

*none*  
 Suitable provision made for rigging lifelines which are  
 available for use in any part of the ship which  
 might have to be used by the crew in the regular  
 working of the ship.

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 ... ..	139-5 1/2	3-0	4-0 x 1-3 2-9 x 1-3	3 4	28-75 13-75	27-9
Forward Well ... ..	37-9	4-0	3-0 x 1-9	2	10-5	10-3
State position of each freeing port ... .. } After Well:— From W.C. 12-3: 47-0: 81-0: 111-3 1/2 4 above deck (F. and A. position and height above deck edge) } Forward Well:— From R.P. 6-0 5 21-10 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— <i>large tub bar fitted in flap door in good order</i> <i>all with flap door but</i> <i>not workable.</i>						
Additional area where sheer is less than standard.						

Particulars of Superstructures, Trunks, Casings, Deckhouses.

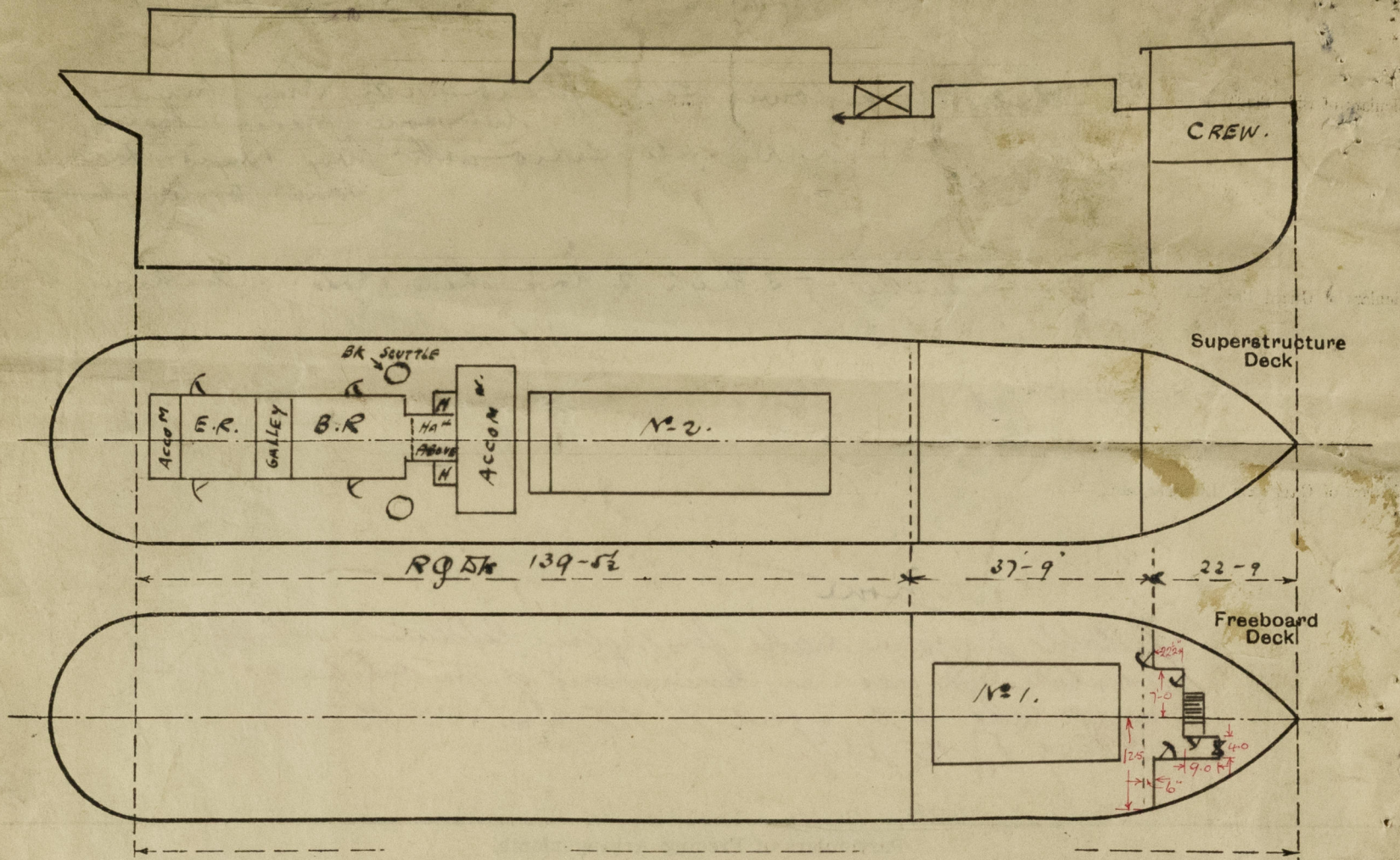
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..								
Raised Quarter Deck Bulkhead ...	7/20	7/20	1 inch 14 inch 2 x 6 3-9 (note made inaccessible)	13-0 54-6	To R.P.R. in A.K.	none	✓	4-0
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..	6/20	6/20	3 x 3 x 1/20 L	85-108	none	4-3 x 24 4-2 x 21	18 16	6-8
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	6/20	6/20	2 x 2 1/2 x 6/20 L	2-6	Top only, A.K.	2 x 6 R. 4-0 x 22	21	7-0
Exposed Machinery Casings on Superstructure 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 ... ..	
Forecastle Bulkhead ... ..	Riveted channels full ht with 2 1/2 inch boards: 2 steel door hinges. } not all operated
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	2 steel hinged doors into E.R. 2 into R.R. not operated both sides.
Exposed Machinery Casings on Superstructure Decks ... ..	
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:—



$$22.75 - \left( \frac{7.0 \times 1.88}{12.5} + \frac{9.0 \times 1.88}{25} \right) = 22.75 - 2.49 = 20.26$$

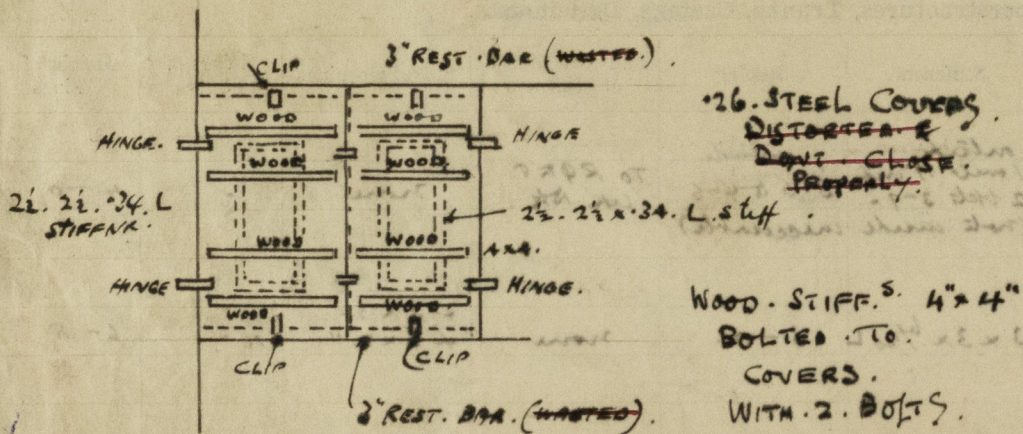
$$23.25 - 2.99 = 20.26$$

OVERHANG = 2.99

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

The crew are berthed forward & aft  
 Timber assignment not required.  
 Survey confined to freeboard examination  
 vessel lying afloat.



DETAILS OF BUNKER HATCH ON CASING TOP.

Builder's name and yard number. *Androsen Drydock Shipbuilding Co. Ltd. Androsen*

Names of sister ships

Owners *P. McCallum & Co. Ltd.*

Fee £ *6 : 16 : -*

Received by me

OMIT



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