

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. 20712  
(For London Office only.)

Computation of Freeboard for Steamer, *Sailing Ship, Tanker*  
having *Raised Quarter Deck, Bridge & Forecastle* Port of Survey *Newcastle-on-Tyne*

*ATALAYA* (Type of Superstructures.)  
Ship's Name " *BONDICAR*" Nationality and Port of Registry *British Newcastle* Official Number *129741* Gross Tonnage *1441* Date of Build *1910-3*

Date of Survey *19<sup>th</sup> Dec 1932*  
Name of Surveyor *J. J. Sowerden*

Moulded Dimensions: Length *240.18* Breadth *36.33* Depth *16.5*  
Moulded displacement at moulded draught = 85 per cent. of moulded depth *2740* tons  
Coefficient of fineness for use with Tables *.784*

Particulars of Classification *+100A1*  
*S.S. Sh. No. 3, 2.24.*  
*S.S. Sh. No. 1-28*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <i>16.5</i>	(a) Where D is greater than Table depth (1) - Table depth) R = <i>(16.54 - 16.0) 1.84</i>	Moulded Breadth (B) <i>36.33</i>
Stringer plate ... <i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>.98</i>	Standard Round of Beam = $\frac{B \times 12}{50} = 8.72$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <i>✓</i>	If restricted by superstructures	Ship's Round of Beam = <i>9.28</i>
Depth for Freeboard (D) = <i>16.54</i>		Difference
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.29}{4} \times \left( 1 - \frac{.512}{1} \right) = .02$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...	<i>123.3</i>	<i>123.30</i>	<i>3.75</i>	<i>2.75</i>	<i>117.60</i>
" overhang ...					
Bridge enclosed ...	<i>10.08</i>	<i>10.08</i>	<i>7.0</i>		<i>10.08</i>
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<i>21.75</i>	<i>21.73</i>	<i>7.0</i>		<i>21.73</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<i>155.11</i>	<i>155.11</i>			<i>149.41</i>

Standard Height of Superstructure *6.0*

" " R.Q.D. *3.932*

Deduction for complete superstructure *30.02*

Percentage covered  $\frac{S}{L} = 64.58$

" "  $\frac{S_1}{L} = 64.58$

" "  $\frac{E}{L} = 62.22$

Percentage from Table, Line A.  
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. *49.77*  
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = *14.94*

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>34.02</i>	<i>1</i>	<i>34.02</i>	<i>36</i>	<i>36.00</i>	<i>36.00</i>	<i>1</i>	<i>36.00</i>	<i>36.00</i>
$\frac{1}{8}$ L from A.P. ...	<i>15.14</i>	<i>4</i>	<i>60.56</i>	<i>17</i>	<i>16.59</i>	<i>16.59</i>	<i>4</i>	<i>66.36</i>	<i>66.36</i>
$\frac{3}{8}$ L " ...	<i>3.74</i>	<i>2</i>	<i>7.48</i>	<i>5</i>	<i>4.15</i>	<i>4.15</i>	<i>2</i>	<i>8.30</i>	<i>8.30</i>
Amidships ...		<i>4</i>					<i>4</i>		
$\frac{5}{8}$ L from F.P. ...	<i>7.48</i>	<i>2</i>	<i>14.96</i>	<i>8</i>	<i>8.10</i>	<i>8.10</i>	<i>2</i>	<i>16.20</i>	<i>16.20</i>
$\frac{7}{8}$ L " ...	<i>30.28</i>	<i>4</i>	<i>121.12</i>	<i>33</i>	<i>32.39</i>	<i>32.39</i>	<i>4</i>	<i>129.56</i>	<i>129.56</i>
F.P. ...	<i>68.04</i>	<i>1</i>	<i>68.04</i>	<i>72</i>	<i>72.00</i>	<i>72.00</i>	<i>1</i>	<i>72.00</i>	<i>72.00</i>
Total ...	<i>306.18</i>		<i>306.18</i>					<i>328.42</i>	<i>328.42</i>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{306.18 - 328.42}{18} \left( \frac{75 - 32.29}{1.271} \right) = .53$

If limited on account of midship superstructure.  $\frac{15.5 \times .53}{20} = .41$

Mean actual sheer aft = *Excess*

Mean standard sheer aft

Mean actual sheer forward = *Excess*

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *.055*

" " aft of " = *.50*

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *20.29*

Summer freeboard = *5.27*

Moulded draught (d) = *15.02*

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *3.75 = 3  $\frac{3}{4}$*

## Addition for Winter North Atlantic Freeboard (if required)=

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 2948$

Tons per inch immersion at summer load water line

$T = 18.0$

Deduction =  $\frac{\Delta}{40T}$  inches

$= 4.09$

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

Correction for coefficient

$\frac{.784 + .68}{1.35} = 14.64$

Depth Correction ... *.98*

Deduction for superstructures ... *14.94*

Sheer correction ... *.41*

Round of Beam correction ... *.02*

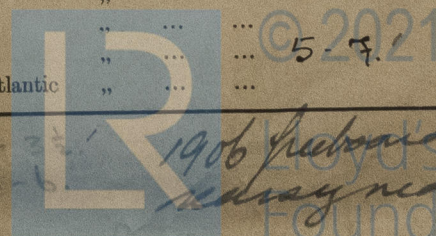
Correction for Thickness of Deck amidships ... *45.00*

Other corrections, scantlings, etc. ... *45.98*

Summer Freeboard = *63.27*

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 " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...



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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
← UPPER DK → RQD → UPPER DK → RQD									
Description of Hatchway	MAIN N°1	MAIN N°2	MAIN N°3	MAIN N°4	FORE PEAK STORE	BUNKER HATCH	APT HATCH	TRANSOM SPACE	
Dimensions of Hatchway	32'-7" 25'-20" x 13'	32'-0" 25'-4"	28'-6" 24'-9"	26'-10" 24'-6" x 21'-0"	1'-7" 2'-6"	4'-0" 25'-4"	1'-8" 2'-6"	1'-4" 11"	
COAMINGS <del>REQUIRE REPAIR</del>	Height above Deck	4'-3"	4'-3"	2'-6"	2'-6"	4'-3"	1'-7 1/2"	FLUSH	
	Thickness { Sides Ends	.50	.50	.50	.50	.50	.36		
	Stiffeners	BA 6 x 3 x 40	6 x 3 x 40	6 x 3 x 40	6 x 3 x 40	6 x 3 x 40	.36		
	Brackets, Stays	1 p 15	7 x 50 18	7 x 50 18	✓	✓	✓	✓	
HATCH BEAMS	Number	6	6	5	5				
	Spacing	4'-2" to 4'-9"	4'-9"	4'-9"	4'-6"				
	Scantling and Sketch	Plate 42 30" x 25" Angles 4 x 3 x 45	Plate 42 32" x 28" Angles 4 x 3 x 45	Plate 42 30" x 26" Angles 4 x 3 x 45	Plate 42 30" x 26" Angles 4 x 3 x 45	✓	NONE	✓	
	Bearing Surface	3"	3"	3"	3"				
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	WP	WP	WP	WP	WP	STEEL	STEEL	
	Thickness	3"	3"	3"	3"	2 1/2"	3"	.36"	.36"
	How fitted	F.A.	F.A.	F.A.	F.A.	T	BOLTED	BOLTED	
	Bearing Surface	3", 8", 4"	3", 8", 4"	3", 8", 4"	3", 8", 4"	3"	3"	3"	
Spacing of Cleats		18" x 25"	18" x 28" 32"	23" x 28"	21" x 24"	NONE	18" x 32"	3 1/2"	13"
Number of Tarpaulins		2	2	2	2	NONE	2	✓	✓
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes</i></p>									

Particulars of fiddle, funnel and ventilator coamings:—

*Funnel ventilators in good order*  
*Engine room skylight of steel of substantial construction. Flap frames to repaint*  
*Fiddle gratings fitting with steel hinged covers.*

Particulars of Flush Bunker Scuttles:—

*None*

Particulars of Companionways:—

*to Saloon contained in strongly constructed house on hidge deck*  
*Opening 5'-0" x 2'-0" x 15" sill Ordinary teak door 1 3/8" panel 7/8" operates both sides*

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

*On forecable deck* { 1 off 4" diam Goose neck 6" to mth to peak shoe  
 2 off 8" diam coam 18" x 20" to crew space  
 1 off 15" " " 23" x 1/40 " hold. (requires renewal)  
*On upper deck* 1 off 15" " " 42" x 3/40 " " unsupported (requires renewal)  
*On hidge deck* 1 off 8" " " 18" x 4/20 " Saloon  
 1 off 5" " Goose neck 9" to mouth to Saloon space  
 2 off 6" " coam 6" x 1/20 to hidge space

*On Raised quarter deck*  
 2 off 15" diam 42" ht unsupported x 9/20 to hold  
 1 off 6" " 36" x 28 to tunnel  
*Wood plugs + canvas covers to be supplied.*

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

*On forecable deck* 2" (1 off) diam 7" to mouth to fore peak.  
*On upper deck* 2 off 1 1/2" Air pipe height 32" " to oil tank  
*On raised quarter deck* 1 off to APT. 6" diam 9" to mouth

*Wood plugs + canvas covers are required of air pipes*

Particulars of Gangway Cargo and Coaling Ports:—

*None*



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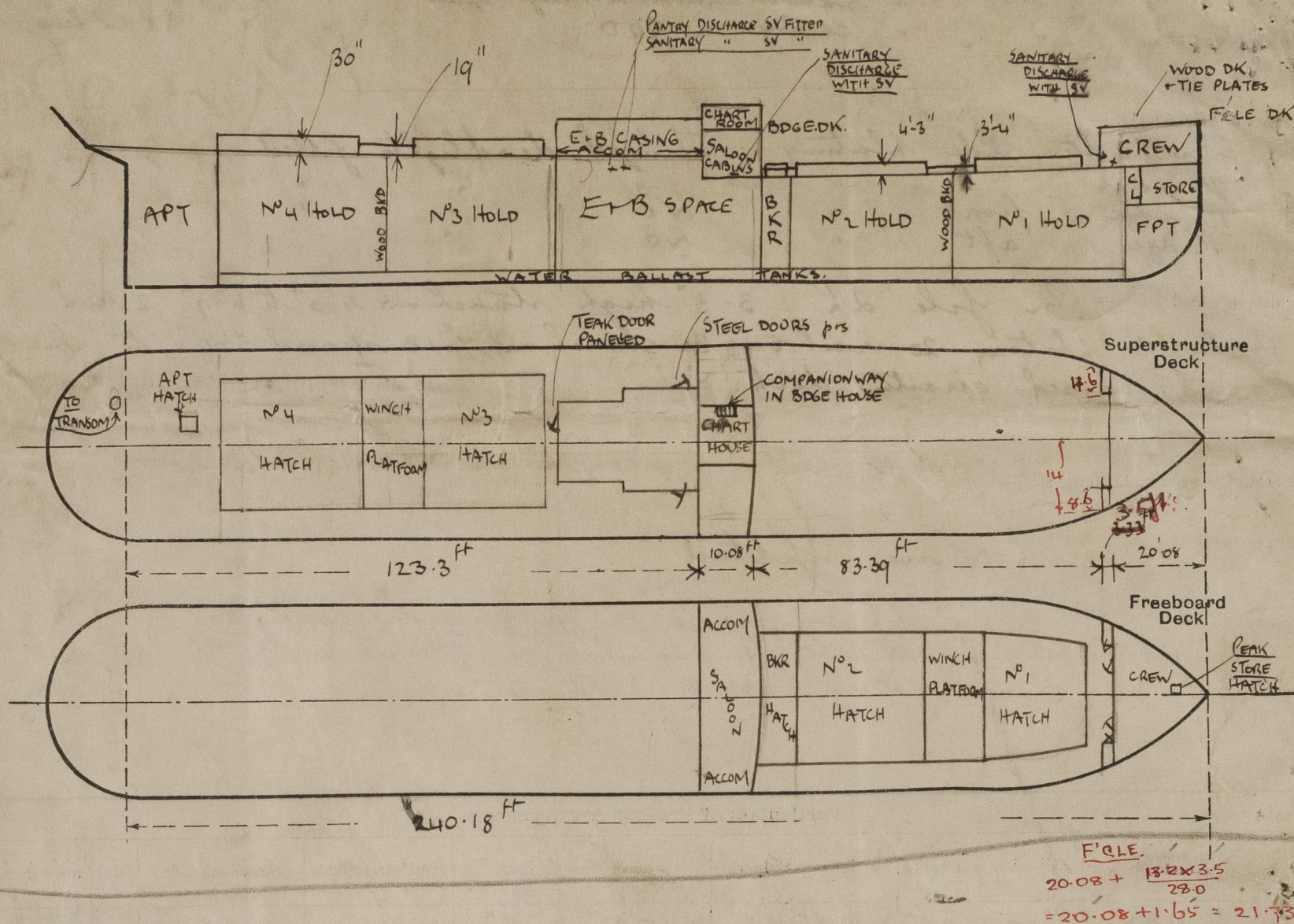
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



State any special features in the construction of the ship:— Vessel examined in dry dock for heavy weather repairs and commencing Special Survey. Decision to complete same not yet arrived at. Vessel will probably proceed to buoy to "lay up"

Items requiring attention underlined in red on report  
See Hatchway cover, stiffeners, hatch battens, ER skylight, vents, air pipes, wash port shutters, doors (fastenings) + RQD wash port area.

85% depth 2740 tons

15 ft	Δ	TPI	tons
15 ft	2930	17.94	tons
16 ft	3146	18.04	"

Builder's name and yard number

J Crown & Sons Ltd N° 134

Names of sister ships

ss Arwell

Owners

Broomhill Steamships Ltd

Fee £

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Received by me