

Clayd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having *shell deck with fore-castle and bridge*Port of Survey *London*

(Type of Superstructures.)

Date of Survey *18th February 1932*
and subsequent dates.

Ship's Name

DUQUESA

Nationality and Port of Registry

*British
Liverpool*

Official Number

140578

Gross Tonnage

8651

Date of Build

*1918*Name of Surveyor *James Butler*

Moulded Dimensions: Length *429-0"* Breadth *61-0"* Depth *38-4" U.D.*
38-3 1/2" S.D.
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *18800* tons
 Coefficient of fineness for use with Tables *.772*

Particulars of Classification *4-100 A1**Shell deck with freeboard.*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	<i>38.29</i>	(a) Where D is greater than Table depth (D - Table depth) R =	<i>(38.40 - 28.60)3 = + 29.40</i>	Moulded Breadth (B)	<i>61.0</i>
Stringer plate	<i>.04</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	<i>.07</i>	Standard Round of Beam = $\frac{B \times 12}{50}$	<i>= 14.64</i>
Sheathing on exposed deck <i>2 1/2"</i>				Ship's Round of Beam	<i>= 15.36</i>
$T \left(\frac{L-S}{L} \right) = .21 \times .3144$	<i>.07</i>			Difference	<i>.36</i>
Depth for Freeboard (D) =	<i>38.40</i>	If restricted by superstructures	<i>✓</i>	Restricted to	
				Correction = $\frac{\text{Diff}^s}{4} \times \left(1 - \frac{S_1}{L} \right)$	<i>= \frac{.36}{4} \times 3258 = -.03</i>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Peep enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...	<i>257.67</i>	<i>257.67</i>	<i>8.33</i>	<i>-</i>	<i>257.67</i>
Bridge enclosed ...	<i>257.67</i>				
" overhang aft ...					
" overhang forward					
F'cle enclosed (OPEN) ...	<i>36.5</i>	<i>31.60</i>	<i>8.0</i>	<i>-</i>	<i>31.60</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<i>294.17</i>	<i>219.27</i>			<i>289.27</i>

Standard Height of Superstructure *7.5*" " R.Q.D. *✓*Deduction for complete superstructure *42*Percentage covered $\frac{S}{L} =$ *68.56%*" $\frac{S_1}{L} =$ *67.42%*" $\frac{E}{L} =$ *67.42%*Percentage from Table, Line A. *✓*(corrected for absence of forecastle (if required)) *58.61%*Percentage from Table, Line B. *✓*(corrected for absence of forecastle (if required)) *58.61%*Interpolation for bridge less than .2L (if required) *✓*Deduction = *42 x .5861 = - 24.62*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>52.9</i>	<i>1</i>		<i>52.90</i>	<i>19.0</i>	<i>36.0</i>	<i>1</i>		<i>36.00</i>
1/2 L from A.P. ...	<i>23.54</i>	<i>4</i>		<i>94.16</i>	<i>15.0</i>	<i>15.01</i>	<i>4</i>		<i>60.04</i>
2/3 L " ...	<i>5.82</i>	<i>2</i>		<i>11.64</i>	<i>3.5</i>	<i>3.75</i>	<i>2</i>		<i>7.50</i>
Amidships ...	<i>-</i>	<i>4</i>		<i>-</i>	<i>0</i>	<i>-</i>	<i>4</i>		<i>-</i>
2/3 L from F.P. ...	<i>11.64</i>	<i>2</i>		<i>23.28</i>	<i>9.5</i>	<i>9.77</i>	<i>2</i>		<i>19.54</i>
1/2 L " ...	<i>47.08</i>	<i>4</i>		<i>188.32</i>	<i>39.0</i>	<i>39.10</i>	<i>4</i>		<i>156.40</i>
F.P. ...	<i>105.8</i>	<i>1</i>		<i>105.80</i>	<i>97.5</i>	<i>97.5</i>	<i>1</i>		<i>97.50</i>
Total ...				<i>476.10</i>					<i>376.98</i>

Mean actual sheer aft = *Deficient*Mean actual sheer forward = *Deficient 86.58%*Length of enclosed superstructure forward of amidships = *✓*" " aft of " = *✓*

FORE SHEER.				Standard				Actual.			
				<i>11.64</i>	<i>3</i>	<i>34.92</i>		<i>9.77</i>	<i>3</i>	<i>29.31</i>	
				<i>47.08</i>	<i>3</i>	<i>141.24</i>		<i>39.10</i>	<i>3</i>	<i>117.30</i>	
				<i>105.80</i>	<i>1</i>	<i>105.80</i>		<i>97.50</i>	<i>1</i>	<i>97.50</i>	
				<i>281.96</i>				<i>244.11</i>			

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{99.12}{18} \left(\frac{75-3428}{2L} \right) = +2.24$ 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 = *38.33*Summer freeboard = *8.60*Moulded draught (d) = *29.73*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *7.43*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ *17213 tons*

Tons per inch immersion at summer load water line

 $T =$ *53.8*Deduction = $\frac{\Delta}{40T}$ inches $= \frac{17213}{40 \times 53.8} = 8"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{.772 + .68}{1.36} = \frac{1.452}{1.36}$ Depth Correction ... *29.40*Deduction for superstructures ... *24.62*Sheer correction ... *2.24*Round of Beam correction ... *.03*Correction for Thickness of Deck amidships ... *.84*Other corrections, scantlings, etc. to correspond to draught of *29.73**42.70*Summer Freeboard = *103.25*

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

Tropical Fresh Water Line above Centre of Disc ... *15 1/2"*Fresh Water Line " " ... *8"*Tropical Line " " ... *7 1/2"*Winter Line below " " ... *7 1/2"*Winter North Atlantic Line " " ... *✓*Tropical Fresh Water Freeboard ... *8'-7 1/4"*Fresh Water " " ... *7'-3 3/4"*Tropical " " ... *7'-11 1/4"*Winter " " ... *7'-11 3/4"*Winter North Atlantic " " ... *9'-2 3/4"*

8 APR 1932

A passing line to be marked 7 1/2" below the Centre of Disc

RECEIVED 18 JUN 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		N ^o 1 & 5	N ^o 2, 3, & 4	N ^o 2, 3, & 4	N ^o 2, 3, & 4	N ^o 6			
Dimensions of Hatchway		26'-11" x 16'-0"	26'-11" x 16'-0"	26'-11" x 16'-0"	26'-11" x 16'-0"	8'-11 1/2" x 16'-0"			
COAMINGS	Height above Deck	30"	3"	30"	30"	30"			
	Thickness	5-0"	Ample coaming, faked with wood	5-0"	5-0"	5-0"			
	Sides	5-0"							
	Ends	5-0"							
COAMINGS	Stiffeners	9" Bulb angle	None	9" Bulb angle	9" Bulb angle	None			
	Brackets, Stays	stiffeners or two brackets	None	stiffeners or two brackets	stiffeners or two brackets	None			
HATCH BEAMS	Number	Five	Two	Five	Five	One			
	Spacing	4'-6"	9'-0"	4'-6"	4'-6"				
	Scantling and Sketch	Two off 4 1/2" x 4 1/2"	Three off 17-13 x 3 1/4"	Two off 4 1/2" x 4 1/2"	Three off 17-13 x 3 1/4"	One off 17-13 x 3 1/4"			
	Bearing Surface	3"	3"	3"	3"	3"			
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
HATCH COVERS	Material	White pine	Insulated	White pine	White pine	W.P.			
	Thickness	3"	Plug Hatches	3"	3"	3"			
	How fitted	Fore & aft		Fore & aft	Fore & aft	Fore & aft			
	Bearing Surface	3"		3"	3"	3"			
Spacing of Cleats		22"	None	22"	22"	20 to 24"			
Number of Tarpaulins		3	None	3	3	3			
*Are wood fore and afters steel shod at all bearing surfaces? Are battens and wedges efficient and in good condition? Are tarpaulins in good condition and in accordance with rule requirements? Are lashings provided in accordance with rule requirements?									

Particulars of fiddle, funnel and ventilator coamings:—

Strokehold gratings covered by strong steel hinged covers.
 Fidler & funnel vents in efficient condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

Ten flush scuttles on Bridge deck 21" dia of cast steel fitted with bayonet joints

Particulars of Companionways:—

Two Entrances to Crews' Quarters aft. Doors of teakwood with 13" sill. Operated from both sides.
 Entrance to N^o 6 Hold. Door of steel with 13" sill. Locked from outside only.
 Escape from Tunnel. Door of steel with 12" sill. Operated from both sides.

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

Two vents on forecastle deck 23" dia. Coamings 36" x 25" led to Hold spaces.
 Six vents on shellis dk 23" dia. Coamings 36" x 38" led to Hold spaces.
 Five vents on shellis dk 8 1/2" to 5 1/2" dia. Coamings 28" to 8" led to Crews' quarters aft.
 Two vents on Bridge dk 23" dia. Coamings 36" x 38" led to Hold spaces.
 All vents to Hold spaces closed with wood plugs and canvas covers.

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

7 C.I. air pipes on shellis dk 7" to 18" high x 3 1/2" to 9" dia from peaks & DB tanks
 20 C.I. air pipes on Bridge dk 13" to 18" high x 3 1/2" dia from DB tanks
 No coaming appliances fitted to above.

Particulars of Gangway Cargo and Coaling Ports:—

One W.T. Cargo door in Bridge side pos 6'-0" x 5'-0" efficiently constructed.
 Two W.T. Coaling doors in Bridge side pos 3'-6" x 2'-0" efficiently constructed.



Particulars of Scuppers and Sanitary Discharge Pipes —

Seven scuppers each side from bridge deck, and three each side from exposed sheller deck. No storm valves fitted. Three scuppers each side from sheller deck inside bridge. No storm valves fitted. All bath and sanitary discharge pipes from spaces above and below freeboard decks fitted with storm valves at ship's sides, and efficient traps at inner ends.

Particulars of Side Scuttles:

All side scuttles below Freeboard and Superstructure decks fitted with hinged leadlights and all of substantial construction.

Particulars of Guard Rails:—

Guard rails on Forecastle deck 3'-3" high, 3 rods, & stanchions 4'-9" apart.
Guard rails in Forward Well 4'-0" high, 5 rods, & stanchions 4'-6" apart.
Guard rails on Bridge deck and Shellier dk abaft bridge 4'-0" high, 5 rods, and stanchions 5'-0" apart.

Particulars of Gangways, Lifelines, etc.:—

None

Lifelines fitted aft clear of erections for the protection of the crew.

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 ...	—	—	—	—	—	—
Forward Well ...		None (Open rails)				

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:—

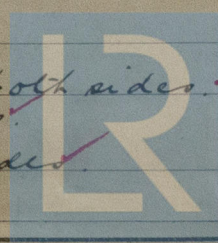
Additional area where sheer is less than standard.

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 ...	—	—	—	—	—	—	—	—
Raised Quarter Deck Bulkhead ...	—	—	—	—	—	—	—	—
Bridge, After Bulkhead ...	33"	30"	Angles 4 x 3 x .33"	36"	None	5'-0" x 37"	15 1/2"	8'-1"
Bridge, Forward Bulkhead ...	44"	40"	Bulk Angles 9 x 3 1/2 x .64"	30"	Brackets	None	—	8'-1"
Forecastle Bulkhead ...			Open Forecastle					
Trunk, Aft ...	—	—	—	—	—	—	—	—
Trunk, Forward ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks (not exposed) ...	33"	30"	—	—	—	5'-2" x 24"	12"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	33"	30"	3 1/2 x 3 x 6/16"	4'-6"	Riveted to beams on top. Bottom Nil	A. Two 5'-0" x 24" B. Two 3'-0" x 16" C. Two 2'-3" x 21"	13" 13" 22"	8'-1"
Deckhouses on Flush Deck Ships ...	—	—	—	—	—	—	—	—

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

Poop Bulkhead ...	✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	Storm boards in riveted channels to full height of openings.
Bridge, Forward Bulkhead ...	None (No openings)
Forecastle Bulkhead ...	None
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Superstructure Decks ...	Four hick wood doors operated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	A. Hinged steel doors operated from both sides. B. Riveted plates. C. Hinged steel doors operated from both sides.
Deckhouses on Flush Deck Ships ...	✓

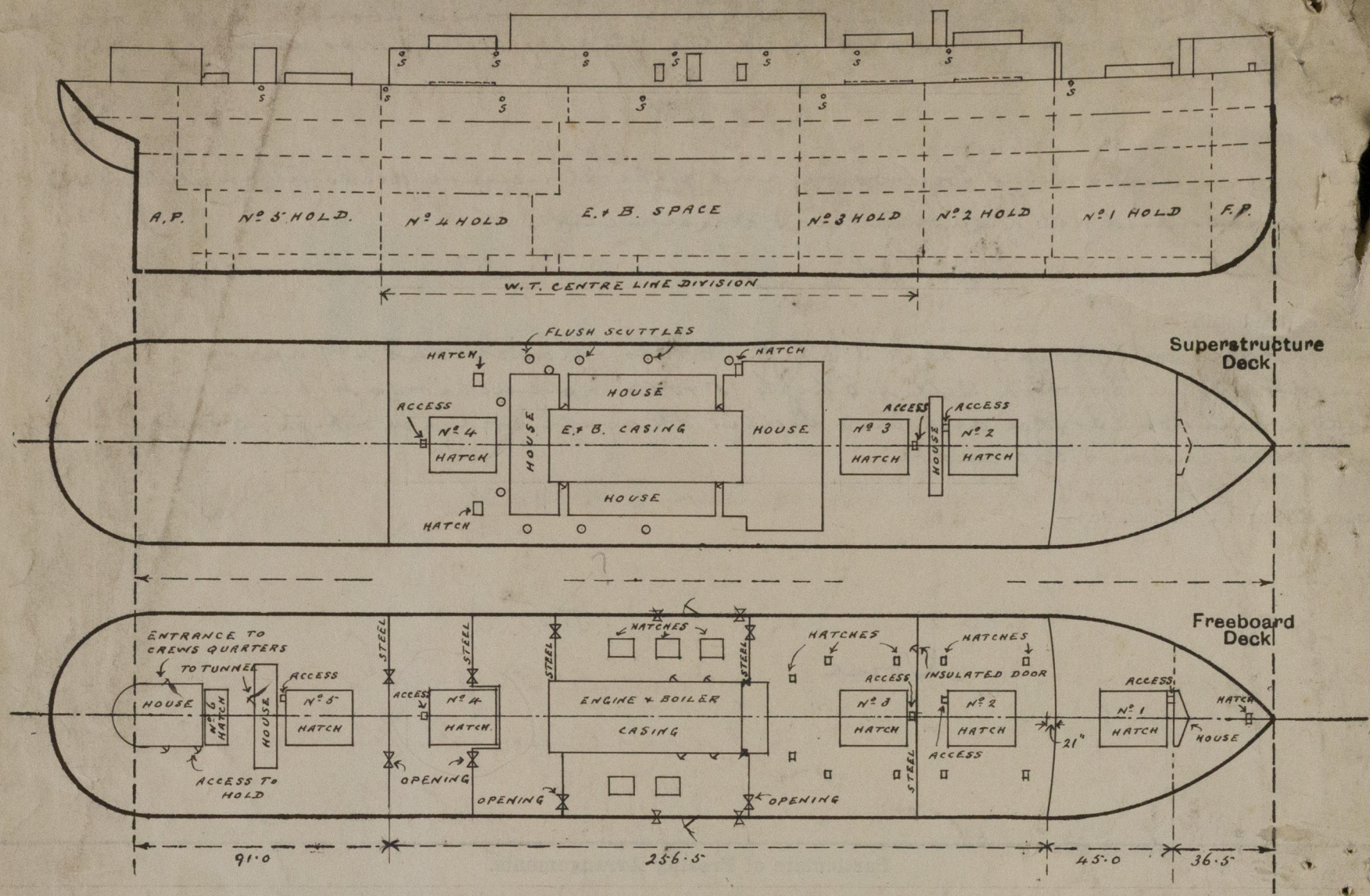


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the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



2 1/2" wood sheathing on Bridge deck, and on shell deck outside Bridge space.
Forecastle deck - Steel only.

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

BRIDGE. 256.50
+ 2/3 of 1.75 1.17
257.67

— Small Hatchways. —

Position	N°	Size	Coaming	Battening down arrangements
Inside Forecastle	1	2'11" x 2'5"	26" x .35 ✓	wood covers + cleats, battens, + tarpaulins + c. ✓
Bridge & abreast N° 4 Hatch	2	3'6" x 2'3"	6" Bull angle ✓	Steel covers with screw bolts + butterfly nuts. ✓
Bridge & amidships Port side	1	3'3" x 2'0"	17" x .30 ✓	Steel hinged covers, + cleats, battens, tarpaulins + c. ✓
Access to Holds, Weather Dk.	5	About 27" x 18"	16" to 25" x .40 ✓	Wood covers + cleats, battens, tarpaulins + c. ✓
Access to Holds, Inside Bridge	3	About 27" x 18"	None	Insulated Plug Hatchcs. No battening arrangements
Coal Hatchcs Inside Bridge	2	11'0" x 7'0"	9" Bull Angles ✓	Wood covers + cleats, battens, tarpaulins + c. ✓
Coal Hatchcs Inside Bridge	3	8'9" x 7'0"	9" Bull Angles ✓	Wood covers + cleats, battens, tarpaulins + c. ✓
Plug Hatchcs Inside Bridge	6	3'0" x 16"	3" Angle Coaming ✓	Insulated Plug Hatchcs. No battening arrangements
Plug Hatchcs Inside Bridge	4	16" x 16"	3" Angle Coaming ✓	Insulated Plug Hatchcs. No battening arrangements

The usual trade of the vessel is to the River Plate.

Builder's name and yard number *Irvine's S. B. & D. Co Ltd N° 555*

Names of sister ships *Similar to S.S. "Paraguayo"*

Owners *Furness - Moulder Argentine Lines Ltd.*

Fee £ *16 : 3 : 0* Received by me *2/7/43*

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