

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Raised Quarter Deck and Forecastle.

Port of Survey Barny.

Date of Survey February 1933.

Name of Surveyor George R. Chappell

Particulars of Classification 100 A-1.
S.S. Shl. No. 3-8, 26
S.S. Ron. No. 1-30

Ship's Name <u>ISADORA.</u>	Nationality and Port of Registry <u>BRITISH.</u> <u>CARDIFF</u>	Official Number <u>162091.</u>	Gross Tonnage <u>1212</u> <u>1206</u>	Date of Build <u>1915, 1.</u>
Moulded Dimensions: Length <u>235.0</u>	Breadth <u>33.0</u>	Depth <u>15.75</u>	<u>2358</u> tons	
Moulded displacement at moulded draught = 85 per cent. of moulded depth				
Coefficient of fineness for use with Tables <u>.795</u>				

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>15.75</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(15.75 - 15.67) 1.807 = .22</u>	Moulded Breadth (B) <u>7.92</u>
Stringer plate <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{7.92 \times 12}{50} = 8.25$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>.33</u>
Depth for Freeboard (D) = <u>15.79</u>		Difference
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.33}{4} \times .182 = -.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	✓		✓		
" overhang	✓		✓		
R.Q.D. enclosed	<u>164.9</u>	<u>164.75</u>	<u>4'0"</u>	-	<u>164.75</u>
" overhang	<u>3</u>	<u>.12</u>			<u>.12</u>
Bridge enclosed	✓		✓		
" overhang aft	✓		✓		
" overhang forward	<u>26.72</u>	<u>26.72</u>	<u>7'6"</u>	-	<u>26.72</u>
F'cle enclosed <u>equi</u>	<u>27.9</u>	<u>.64</u>			<u>.64</u>
" overhang	<u>1.28</u>		✓		
Trunk aft	✓		✓		
" forward	✓		✓		
Tonnage opening aft	✓		✓		
" forward	✓		✓		
Total	<u>193.0</u>	<u>192.23</u>			<u>192.23</u>

Standard Height of Superstructure	<u>6.00</u>
" " R.Q.D.	<u>3.90</u>
Deduction for complete superstructure	<u>29.50</u>
Percentage covered $\frac{S}{L} =$	<u>82.13</u>
" " $\frac{S_1}{L} =$	<u>81.80</u>
" " $\frac{E}{L} =$	<u>81.80</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	<u>77.53</u>
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction =	<u>-22.87</u>

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	<u>33.50</u>	1	<u>33.50</u>	<u>27.0</u>	<u>28.20</u>	1	<u>28.20</u>
$\frac{1}{8}$ L from A.P.	<u>14.91</u>	4	<u>59.64</u>	<u>10.256</u>	<u>11.46</u>	4	<u>45.84</u>
$\frac{2}{8}$ L " "	<u>3.68</u>	2	<u>7.36</u>	<u>2.656</u>	<u>2.86</u>	2	<u>5.72</u>
Amidships		4	<u>0</u>	<u>0</u>		4	
$\frac{3}{8}$ L from F.P.	<u>7.37</u>	2	<u>14.74</u>	<u>6.41</u>	<u>6.41</u>	2	<u>12.82</u>
$\frac{1}{8}$ L " "	<u>29.81</u>	4	<u>119.24</u>	<u>25.66</u>	<u>25.66</u>	4	<u>102.64</u>
F.P.	<u>67.00</u>	1	<u>67.00</u>	<u>63.0</u>	<u>63.00</u>	1	<u>63.00</u>
Total			<u>301.48</u>				<u>258.22</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{-43.26}{18} \left(.75 - \frac{4106}{25822} \right) = +.82$

If limited on account of midship superstructure.

Mean actual sheer aft = Deficient
Mean standard sheer aft = 3.90
.10
= 1.20

Mean actual sheer forward = Deficient
Mean standard sheer forward = 3.90
.10
= 1.20

Length of enclosed superstructure forward of amidships = 3 sheer deficient
" " aft of " = 3 sheer deficient

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck =	<u>19.79</u>
Summer freeboard =	<u>4.83</u>
Moulded draught (d) =	<u>14.96</u>

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.74 $3\frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = 2"

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ 2662

Tons per inch immersion at summer load water line
 $T =$ 15.92

Deduction = $\frac{\Delta}{40T}$ inches = 4.18

4'4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient	<u>1.36</u>	<u>1.36</u>	
Depth Correction	<u>.22</u>		
Deduction for superstructures	<u>22.87</u>		
Sheer correction	<u>.82</u>		
Round of Beam correction	<u>.02</u>		
Correction for Thickness of Deck amidships	<u>48.00</u>		
Other corrections, scantlings, etc.	<u>49.04</u>	<u>22.89</u>	<u>26.15</u>
Summer Freeboard =	<u>58.04</u>		

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

Tropical Fresh Water Line above Centre of Disc	<u>8"</u>	Tropical Fresh Water Freeboard	<u>4'10"</u>
Fresh Water Line " "	<u>4'4"</u>	Fresh Water " "	<u>4'10"</u>
Tropical Line " "	<u>3'3/4"</u>	Tropical " "	<u>4'6'3/4"</u>
Winter Line below " "	<u>3'3/4"</u>	Winter " "	<u>5'1'3/4"</u>
Winter North Atlantic Line " "	<u>5'3/4"</u>	Winter North Atlantic " "	<u>5'3'3/4"</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

		HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS							
		IN WELL	ON R.Q. DECK.						
Description of Hatchway	...	No. 1.	No. 2.	No. 3.	No. 4.				
Dimensions of Hatchway	...	26'6" x 26'2"	24'8" x 20'1"	20'6" x 20'1"	24'4" x 18'0"				
COAMINGS	Height above Deck	37"	30"	30"	30"				
	Thickness	50	44	44	44				
	Stiffeners	6 1/2 x 3 1/2 x 46 B.A.	6 1/2 x 3 1/2 x 46 B.A.	6 1/2 x 3 1/2 x 46 B.A.	6 1/2 x 3 1/2 x 46 B.A.				
	Brackets, Stays	5. 7" B.P.	4. 7" B.P.	4. 7" B.P.	4. 7" B.P.				
HATCH BEAMS	Number	5	4	4	4				
	Spacing	5'0"	4'11"	4'11"	4'10"				
	Scantling and Sketch	38" x 36" plate. 4" x 3 1/2 x 32"	36" x 36" plate. 4" x 3 1/2 x 32"	37" x 36" plate. 4" x 3 1/2 x 32"	36" x 36" plate. 4" x 3 1/2 x 32"				
	Bearing Surface	3"	3"	3"	3"				
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
HATCH COVERS	Material	Wood.							
	Thickness	2 3/4"							
	How fitted	F&A.							
	Bearing Surface	3" x 4"							
Spacing of Cleats	...	18"							
Number of Tarpaulins	...	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.*

Particulars of fiddle, funnel and ventilator coamings:— Fiddle, funnel & ventilator coamings in an efficient condition.
 Engine room skylights of steel strongly constructed, with hinged steel flaps fitted with bullsheads.
 Fiddle gratings have hinged steel storm plates, ~~swivel hinges broken~~.

Particulars of Flush Bunker Scuttles:— 18" flush bunker scuttles P. & S. on R.Q.D. amidships
 P.S. closed by steel plate secured by cross bar & through bolt.
 S.S. closed by cast steel cover secured by bayonet joint. (*one lug missing*).

Particulars of Companionways:— *None.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 On fore-castle dk. one 15" vent. coaming 24" x 36"
 In fore-well on trunk. one 15" vent. coaming 31" x 32"
 On R.Q. Deck. three 15" vents coamings 30" x 32. one 15" vent. coaming 35" x 32.
 one 10" vent coaming 24" x 20. Wood plugs & canvas covers supplied for closing.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 R.Q.D. one 3 1/2" ht. 3" to A.P. Four 3 1/2" ht. 30"
 Four 2" ht. 38" & two 2" ht. 32". (straight open ended pipes).
 Two 3" ht. 8". Two 3 1/2" ht. 32".
 Fore-well. Two 2" ht. 27".
 Fore-castle. One 2" ht. 4" to F.P.
 All pipes have goosenecks except as stated.
wood plugs provided

Particulars of Gangway Cargo and Coaling Ports:— *None.*



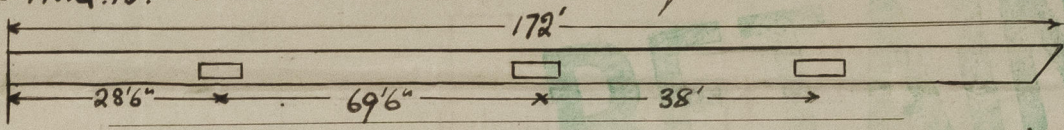
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Particulars of Scuppers and Sanitary Discharge Pipes:— Scupper from after end of well discharges overboard below deck through open pipe.
Sanitary dish. fore. discharges above deck, & Sany. discharges amidships below R.Q.D. all fitted with storm valves on ship's sides.

Particulars of Side Scuttles:— In crew accommodation in fore-castle, of sound construction, fitted with hinged deadlights.

Particulars of Guard Rails:— On fcl. 2 rails, ht. 38", 40" between stanchions.
On R.Q.D. steel bulwarks ht. 40" particulars as shown. Actual position shown overleaf.
3 F.Ps. Pe8.
32" x 19" ht above dk 5"
fitted with 2 rails.



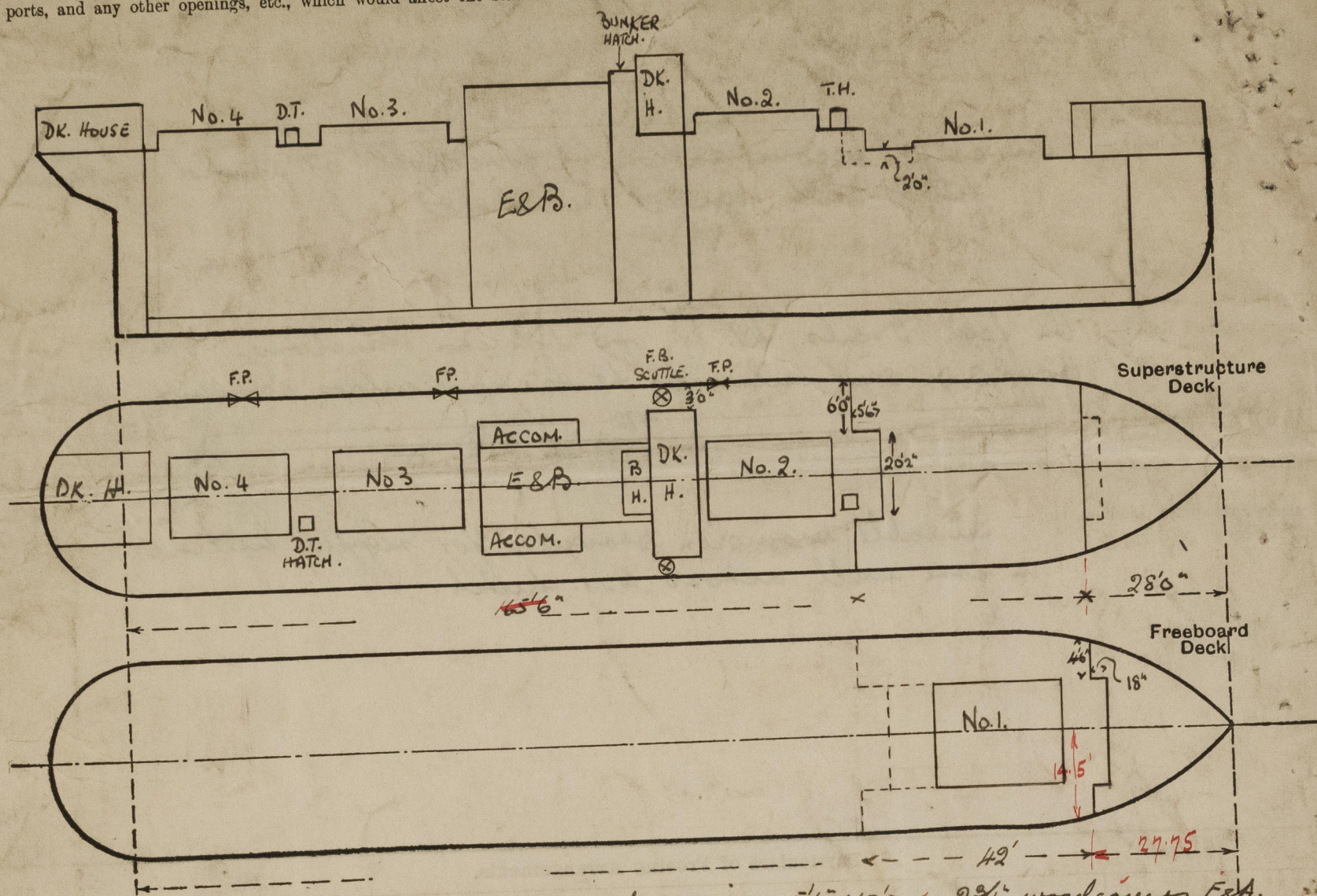
Particulars of Gangways, Lifelines, etc.:— Suitable provision provided for rigging lifelines in fore well across No. 1 hatch.

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 ...	164.75 <i>open after end</i>	40" ✓	32 x 19 4'0" x 1'0"	3 ✓3	12.66 25	37.95 10.7
Forward Well ...	42'0" ✓	39"	32" x 18"	3	12 ft.	4 ft.
State position of each freeing port ... { After Well:— (F. and A. position and height above deck edge) { Forward Well:— from fcl. 9'6" — 20'6" — 30'6" 11" above dk. State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— <i>fitted with two cross rails.</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 ...	38	38	Bktd. to dk. in wings.		✓	✓	✓	4'0"
Bridge, After Bulkhead ...	✓							
Bridge, Forward Bulkhead ...	✓							
Forecastle Bulkhead ...	34	34	2 1/2 x 2 1/2 o As	24"	None.	24" x 4'6"	18"	7'6"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	34	30	2 1/2 x 2 1/2 o As	28"	Bktd. T.	24" x 4'6"	18"	7'0"
Exposed Machinery Casings on Super-structure 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 ...	✓ <i>no openings</i>
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	<i>Hinged wood & steel doors with locks manipulated from both sides.</i>
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	<i>Hinged steel doors with locks manipulated from both sides.</i>
Exposed Machinery Casings on Super-structure 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:—



Bunker Hatchway on machy casing 5'6" x 10'0". 2 1/4" wood covers F&A. 3 1/2" nests, cleats 2 1/4" battens 2 1/2" x 8'0". Small hatchways on R.Q.D. 22" x 23" - ht. 36" - with jointed steel plate covers secured by stagglers. After hatch to deep tank, fore hatch now used as trimming hatch.

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

~~Dwt. Scale.~~
~~Tons. Draft.~~
~~2860. 14' 10 1/2"~~
~~2485 14' 0"~~
~~2290 13' 0"~~
~~2100 12' 0"~~

Loche = 27.75
 - 10 x 1.5 = - 15.00
 14.5
 26.72
 1.28 04
 28.00

Vessel measured afloat for freeboard purposes only.

Builder's name and yard number G. Brown & Co. Greenock.

Names of sister ships ✓

Owners Maurit Shipping Co. Ltd. (R. P. Cane & Co. Ltd. Mgrs).

Fee £ 8 10 0.

Received by me [Signature]



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