

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

29 MAR 1935

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Tore castle, Bridge and Poopdeck

Port of Survey Amsterdam

Date of Survey 28<sup>th</sup> of March 1935

Name of Surveyor H. P. Jonker

Particulars of Classification +100 A1

CANDLESTON CASTLE (Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>S. S. SEVEN SEAS STAR</u>	<u>British Cardiff</u>	<u>162106</u>	<u>2494.56</u>	<u>1920-4</u>

Moulded Dimensions: Length 300 Breadth 43.50 Depth 24.46

Moulded displacement at moulded draught = 85 per cent. of moulded depth 5967 tons

Coefficient of fineness for use with Tables .770

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>24.46</u>	(a) Where D is greater than Table depth <u>24.50</u> (D - Table depth) R = $(24.50 - 20.00) \times 2.305$ = <u>+ 10.39"</u>	Moulded Breadth (B) <u>43.50</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>10.44"</u> Ship's Round of Beam = <u>10.75"</u> Difference <u>Excess .31"</u>
Stringer plate ... .. <u>.94</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>✓</u>	Restricted to
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <u>✓</u>	If restricted by superstructures <u>✓</u>	Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.31}{4} \times .5213 = -$
Depth for Freeboard (D) = <u>24.50</u>		

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..	<u>28.16</u>	<u>28.16</u>	<u>7.50</u>	<u>✓</u>	<u>28.16</u>	Standard Height of Superstructure <u>6.50</u>
" overhang ... ..						" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ... ..						Deduction for complete superstructure <u>35.33</u>
" overhang ... ..						Percentage covered $\frac{S}{L} =$ <u>48.24%</u>
Bridge enclosed ... ..	<u>81.00</u>	<u>81.00</u>	<u>7.00</u>	<u>✓</u>	<u>81.00</u>	" " $\frac{S_1}{L} =$ <u>47.87%</u>
" overhang aft ... ..	<u>✓</u>					" " $\frac{E}{L} =$ <u>47.87%</u>
" overhang forward ... ..	<u>2.25</u>	<u>1.12</u>	<u>7.00</u>	<u>✓</u>	<u>1.12</u>	Percentage from Table, Line A. Timber. <u>67.92%</u>
F'cle enclosed ... ..	<u>33.33</u>	<u>33.33</u>	<u>7.00</u>	<u>✓</u>	<u>33.33</u>	(corrected for absence of forecastle (if required))
" overhang ... ..						Percentage from Table, Line B. <u>✓</u>
Trunk aft ... ..						(corrected for absence of forecastle (if required))
" forward ... ..						Interpolation for bridge less than .2L (if required) <u>✓</u>
Tonnage opening aft ... ..						Deduction = <u>35.33</u> $\times$ <u>.6792</u> = <u>- 23.99"</u>
" " forward ... ..						
Total ... ..	<u>144.74</u>	<u>143.61</u>			<u>143.61</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<u>40.00</u>	<u>1</u>	<u>✓</u>	<u>40.00</u>	<u>24.00</u>	<u>24.00</u>	<u>1</u>	<u>✓</u>	<u>24.00</u>	Mean actual sheer aft = <u>Deficient</u>
$\frac{1}{8}$ L from A.P. ... ..	<u>17.80</u>	<u>4</u>	<u>✓</u>	<u>71.20</u>	<u>1.50</u>	<u>1.50</u>	<u>4</u>	<u>✓</u>	<u>6.00</u>	Mean actual sheer forward = <u>Deficient</u>
$\frac{2}{8}$ L " ... ..	<u>4.40</u>	<u>2</u>	<u>✓</u>	<u>8.80</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>✓</u>	<u>0</u>	Length of enclosed superstructure forward of amidships = <u>Deficient</u>
Amidships ... ..	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	" " aft of " = <u>sheet.</u>
$\frac{3}{8}$ L from F.P. ... ..	<u>8.80</u>	<u>2</u>	<u>✓</u>	<u>17.60</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>✓</u>	<u>0</u>	
$\frac{4}{8}$ L " ... ..	<u>35.60</u>	<u>4</u>	<u>✓</u>	<u>142.40</u>	<u>5.50</u>	<u>5.50</u>	<u>4</u>	<u>✓</u>	<u>22.00</u>	
F.P. ... ..	<u>80.00</u>	<u>1</u>	<u>✓</u>	<u>80.00</u>	<u>72.00</u>	<u>72.00</u>	<u>1</u>	<u>✓</u>	<u>72.00</u>	
Total ... ..				<u>360.00</u>					<u>124.00</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{236}{18} \left( 75 - \frac{2412}{5088} \right) = + 6.67"$$

If limited on account of midship superstructure.

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>24.50</u></p> <p>Summer freeboard = <u>3.27</u></p> <p>Moulded draught (d) = <u>21.23</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = <math>\frac{d}{4}</math> inches = <u>5.31</u> = <u>5<math>\frac{1}{2}</math>"</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <math>\frac{d}{3}</math> = <u>7.07</u> = <u>7"</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line <math>\Delta =</math> <u>6280</u></p> <p>Tons per inch immersion at summer load water line <math>T =</math> <u>26.45</u></p> <p>Deduction = <math>\frac{\Delta}{40T}</math> inches = <u>5.94</u> = <u>6"</u></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <math>\frac{774.65}{1.36} = \frac{145}{136}</math></p> <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ... ..</td> <td><u>10.39</u></td> <td><u>-</u></td> </tr> <tr> <td>Deduction for superstructures ... ..</td> <td><u>-</u></td> <td><u>23.99</u></td> </tr> <tr> <td>Sheer correction ... ..</td> <td><u>6.67</u></td> <td><u>-</u></td> </tr> <tr> <td>Round of Beam correction ... ..</td> <td><u>-</u></td> <td><u>.04</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ... ..</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td>Other corrections, scantlings, etc. ... ..</td> <td><u>-</u></td> <td><u>-</u></td> </tr> <tr> <td></td> <td><u>17.06</u></td> <td><u>24.03</u></td> </tr> </table> <p>Summer Freeboard = <u>39.30</u></p>		+	-	Depth Correction ... ..	<u>10.39</u>	<u>-</u>	Deduction for superstructures ... ..	<u>-</u>	<u>23.99</u>	Sheer correction ... ..	<u>6.67</u>	<u>-</u>	Round of Beam correction ... ..	<u>-</u>	<u>.04</u>	Correction for Thickness of Deck amidships ... ..	<u>-</u>	<u>-</u>	Other corrections, scantlings, etc. ... ..	<u>-</u>	<u>-</u>		<u>17.06</u>	<u>24.03</u>
	+	-																								
Depth Correction ... ..	<u>10.39</u>	<u>-</u>																								
Deduction for superstructures ... ..	<u>-</u>	<u>23.99</u>																								
Sheer correction ... ..	<u>6.67</u>	<u>-</u>																								
Round of Beam correction ... ..	<u>-</u>	<u>.04</u>																								
Correction for Thickness of Deck amidships ... ..	<u>-</u>	<u>-</u>																								
Other corrections, scantlings, etc. ... ..	<u>-</u>	<u>-</u>																								
	<u>17.06</u>	<u>24.03</u>																								

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:			
Timber	Tropical Fresh Water Line above Centre of Disc ...	<u>23<math>\frac{3}{4}</math></u>	Tropical Fresh Water Freeboard ...
"	Fresh Water Line " " ...	<u>18<math>\frac{1}{2}</math></u>	" " " " ...
"	Tropical Line " " ...	<u>17<math>\frac{3}{4}</math></u>	" " " " ...
"	Winter Line " " ...	<u>5<math>\frac{1}{2}</math></u>	" " " " ...
"	Winter North Atlantic Line " " ...	<u>5<math>\frac{3}{4}</math></u>	" " " " ...



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway ... ..											
Dimensions of Hatchway ... ..											
COAMINGS	{	Height above Deck ... ..									
		Thickness { Sides ... ..									
		{ Ends ... ..									
		Stiffeners ... ..									
		Brackets, Stays ... ..									
HATCH BEAMS	{	Number ... ..									
		Spacing ... ..									
		Scantling and Sketch ... ..									
		Bearing Surface ... ..									
FORE AND AFTERS	{	Number ... ..									
		Spacing ... ..									
		Unsupported Lengths ... ..									
		Scantling* and Sketch ... ..									
		Bearing Surface ... ..									
HATCH COVERS	{	Material ... ..									
		Thickness ... ..									
		How fitted ... ..									
		Bearing Surface ... ..									
Spacing of Cleats ... ..											
Number of Tarpaulins ... ..											
<div>*Are wood fore and afters steel shod at all bearing surfaces ?</div> <div>Are battens and wedges efficient and in good condition ?</div> <div>Are tarpaulins in good condition and in accordance with rule requirements ?</div> <div>Are lashings provided in accordance with rule requirements ?</div>											

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—





Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles :—

Particulars of Guard Rails :—

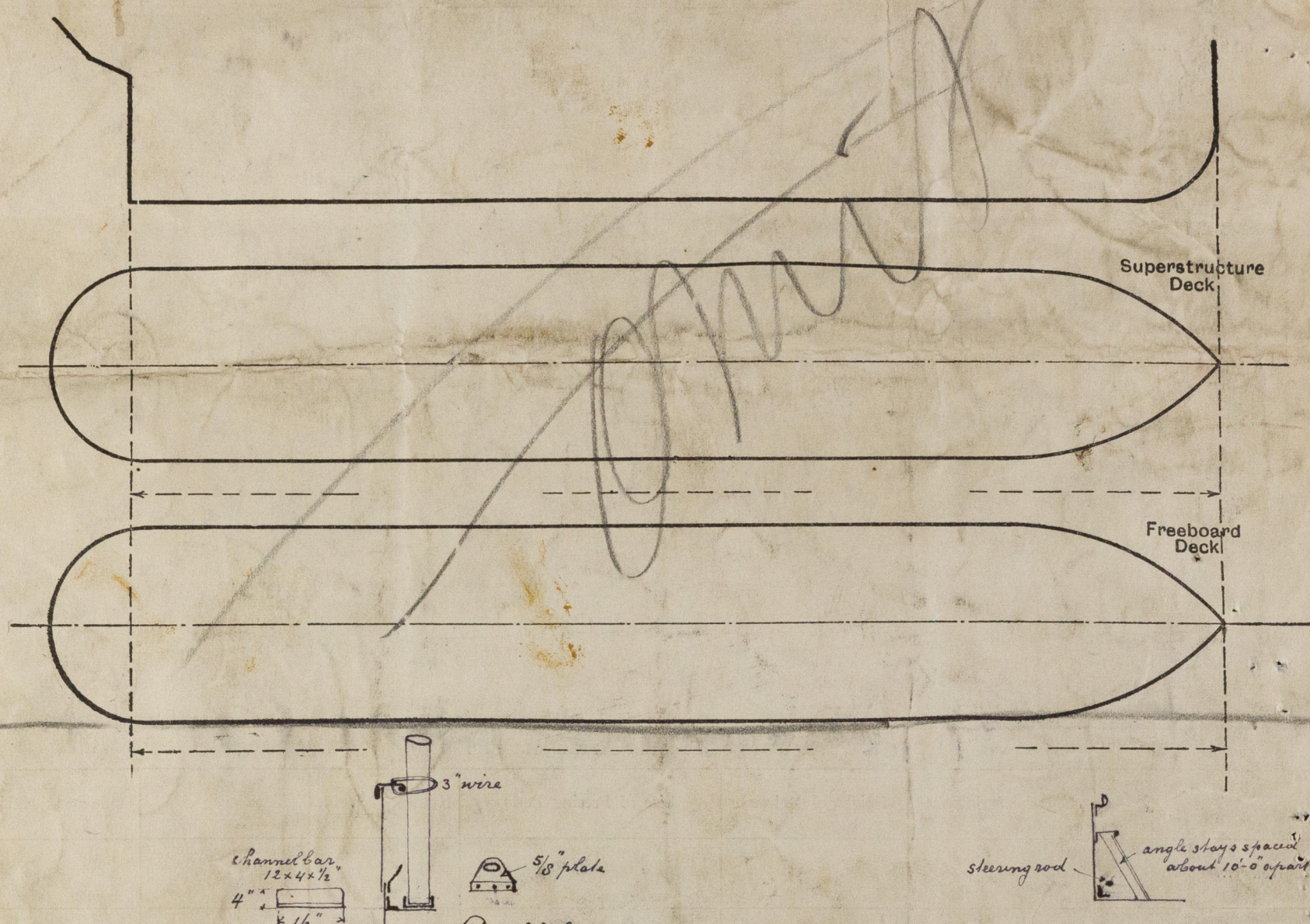
Particulars of Gangways, Lifelines, etc. :—

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 ... ..						
State position of each freeing port ... .. } After Well :— (P. 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 ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..								
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks ... ..								
Machinery Casings within Superstruc-tures 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 ...								
Bridge, After Bulkhead ... ..								
Bridge, Forward Bulkhead ... ..								
Forecastle Bulkhead ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks ... ..								
Machinery Casings within Superstruc-tures 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 shewn on the following sketches:—



State any special features in the construction of the ship:— Double bottom tanks within the midship half length of the ship have an adequate longitudinal subdivision. Permanent bulwark fitted, stiffened on the upper edge by a profile and supported by strong L angle stiffeners, attached to deck in way of deck beams, and provided with necessary freeing ports. Poop and Fore castle deck fitted with rail. Bridge deck fitted with rail. All openings to spaces below freeboard deck, are securely closed and battened down as required. Access to the quarters of the crew, to machinery spaces, and all other parts used in the necessary work of the ship are available at all times. Guard rails or life lines, will be fastened to the uprights on each side of the deck cargo of at least 4 feet above the cargo, spaced not more than 12" inch apart vertical. Also a life line at centre. Steering arrangement are protected from damage by cargo, by hatchway coamings and brackets to same see sketch. Guard plates, and steel trunk from upper deck to Poop deck. An efficient hand steering on Poop deck. Wood uprights fitted in L Bars Electric welded to stringer plate, spaced not more than 10'-0" apart. Lashings are spaced 10'-0" apart, eye plates for these lashings are riveted to the sheer strake spaced not more than 10'-0" apart, the distance from the end bulk head of a Superstructure to the first eye plate is not more than 6'-6". Overall lashings are of steel wire 3" circumference, with slip hooks and stretching screws, and short lengths of long link chain 1/8" diam. to permit the length of lashings to be regulated.

Candleston Castle.

Builder's name and yard number. *Burntisland S.B. Co. Ltd*

Names of sister ships.

Owners *The Rising Sun Navigation*Fee *£ 36.-*Received by me *[Signature]*

© 2020

Lloyd's Register  
Foundation