

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

28/5/34

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Pop. Bridge & Forecastle.

Port of Survey Lancaster & New Westminster

Date of Survey Sep 26 27 28 29. 1933

Name of Surveyor Alfred A. J. Boomer

Particulars of Classification +100 A1

(Type of Superstructures.)

Ship's Name BRIGHTSTAR <i>EX-CANADIAN IMPORTER</i>	Nationality and Port of Registry <i>British</i> <i>London</i>	Official Number <i>141568</i>	Gross Tonnage <i>5465</i>	Date of Build <i>1920-2.</i>
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Moulded Dimensions: Length 400 Breadth 52.0 Depth 31.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12191 tons

Coefficient of fineness for use with Tables 778

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <u>31.0</u></p> <p>Stringer plate ... <u>0.4</u></p> <p>Sheathing on exposed deck</p> <p>$T \left(\frac{L-S}{L} \right) =$</p> <p>Depth for Freeboard (D) = <u>31.04</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D-Table depth) R = $(31.04 - 26.66) \times 3 = 13.14$</p> <p>(b) Where D is less than Table depth (if allowed) (Table depth-D) R =</p> <p>If restricted by superstructures</p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <u>52.0</u></p> <p>Standard Round of Beam = $\frac{B \times 12}{50} = 12.48$</p> <p>Ship's Round of Beam = <u>13</u></p> <p>Difference <u>0.52</u></p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{0.52^2}{4} \times 4942 = 0.06$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>49.25</u>	<u>49.25</u>	<u>8.0</u>	<u>-</u>	<u>49.25</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>113.25</u>	<u>113.25</u>	<u>8.0</u>	<u>-</u>	<u>113.25</u>
" overhang aft ...					
" overhang forward ...					
Forecastle <u>open</u> ...	<u>39.83</u>	<u>39.83</u>	<u>8.0</u>	<u>-</u>	<u>39.83</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	<u>202.33</u>	<u>202.33</u>			<u>202.33</u>

Standard Height of Superstructure 7.6

" " R.Q.D. -

Deduction for complete superstructure 42

Percentage covered $\frac{S}{L} = \frac{202.33}{400} = 50.58\%$

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

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

Percentage from Table, Line A. Does not apply
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 36.58
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required) Not required

Deduction = $42 \times 36.58 = 15.36$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft =	Mean standard sheer aft =
A.P. ...	<u>50</u>	1	<u>50</u>	<u>62.5</u>	<u>62.5</u>	1	<u>62.50</u>		<u>62.50</u>	EXCESS AFT. ALLOW FULL XCESS SHEER	
1/8 L from A.P. ...	<u>22.25</u>	4	<u>89</u>	<u>25.67</u>	<u>25.67</u>	4	<u>102.68</u>		<u>102.68</u>		
2/8 L " ...	<u>5.5</u>	2	<u>11</u>	<u>6.42</u>	<u>6.42</u>	2	<u>12.84</u>		<u>12.84</u>	Mean actual sheer forward =	Mean standard sheer forward =
Amidships ...	<u>0</u>	4	<u>0</u>	<u>0</u>	<u>0</u>	4	<u>0</u>		<u>0</u>	Length of enclosed superstructure forward of amidships =	13
2/8 L from F.P. ...	<u>11</u>	2	<u>22</u>	<u>13.88</u>	<u>13.88</u>	2	<u>27.76</u>		<u>27.76</u>	" " aft of " =	15
1/8 L " ...	<u>44.5</u>	4	<u>178</u>	<u>55.69</u>	<u>55.69</u>	4	<u>222.76</u>		<u>222.76</u>		
F.P. ...	<u>100</u>	1	<u>100</u>	<u>125.5</u>	<u>125.5</u>	1	<u>125.50</u>		<u>125.50</u>		
Total ...			<u>450</u>				<u>554.04</u>		<u>554.04</u>		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(75 - \frac{S}{2L} \right) = \frac{104.04}{18} \times (75 - 25.29) = -2.88$

If limited on account of midship superstructure. NOT LIMITED

If limited to maximum allowance of 1 1/2 ins. per 100 ft. NOT LIMITED

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>31.04</u></p> <p>Summer freeboard = <u>5.96</u></p> <p>Moulded draught (d) = <u>25.048</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6 1/4</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>NOT REQ</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = 11640$</p> <p>Tons per inch immersion at summer load water line</p> <p>$T = 42.5$</p> <p>Deduction = $\frac{\Delta}{40T}$ inches = <u>6.85</u></p> <p><u>6 3/4</u></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{68+778}{1.36}$</p> <p>Depth Correction ... <u>13.14</u></p> <p>Deduction for superstructures ... <u>15.36</u></p> <p>Sheer correction ... <u>2.88</u></p> <p>Round of Beam correction ... <u>0.06</u></p> <p>Correction for Thickness of Deck amidships ...</p> <p>Other corrections, scantlings, etc. ...</p> <p>Summer Freeboard = <u>71.48</u></p>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~WATER~~ Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ... <u>13</u>	Tropical Fresh Water Freeboard ... <u>5 1/2</u>
Fresh Water Line " " ... <u>6 3/4</u>	Fresh Water " " ... <u>4-10 1/2</u>
Tropical Line " " ... <u>6 1/4</u>	" " ... <u>5-4 3/4</u>
Winter Line below " " ... <u>6 1/4</u>	" " ... <u>5-5 1/4</u>
Winter North Atlantic Line " " ... <u>6 1/4</u>	" " ... <u>6-5 3/4</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	No 1	No 2	No 3	No 3	No 4	No 5	Bridge deck		
Dimensions of Hatchway	26x32.5	26x34.66	18x10.8	18x10.8	26x34.66	26x30.3	4 Bunkers Hatchways on Bridge deck		
COAMINGS	Height above Deck	30"	10 B.A.	30"	Same as	Same as	4x8-11. Coaming 18" 3/8 plate wood covers 2 1/2" thick. afters. Bearing surface 2 1/2" clats 22" and batten. 3 batten. + Bunkers hatch on freeboard deck under bridge		
	Thickness	7/16"	Same as	7/16"	Same as	Same as			
	Stiffeners	8x3 1/2 BA	None	8x3 1/2 BA	None	None			
	Brackets, Stays	None	None	None	None	None			
HATCH BEAMS	Number	6	6	None	None	6	4-5 x 4 1/2" Coaming 10x3 1/2 BA wood covers 2 1/2" thick. afters. Bearing surface 3" clats batten. Looking far. (1000 ft) Hatch on poop to Casarete. 2-5 x 2-6 Coaming 15" plate 1/8 wood covers 2 1/2" Bearing surface 2 clats 17" batten and looking far. 3 batten. Hatch under forecastle F.P. 29x29 Coaming 27" plate 1/8 wood covers 2 1/2" Bearing surface 1 1/2 clats 18" batten and bearing far. Chain locker. 22 x 20" Coaming 25" plate 1/8 Covers and plating. Same as F.P.		
	Spacing	4-6"	5-0"	None	None	5-0"			
	Scantling and Sketch	7/16"	Same as	None	None	Same as			
	Bearing Surface	19x3 1/2"	None	None	None	None			
FORE AND AFTERS	Number	None	None	None	None	None	4-5 x 4 1/2" Coaming 10x3 1/2 BA wood covers 2 1/2" thick. afters. Bearing surface 3" clats batten. Looking far. (1000 ft) Hatch on poop to Casarete. 2-5 x 2-6 Coaming 15" plate 1/8 wood covers 2 1/2" Bearing surface 2 clats 17" batten and looking far. 3 batten. Hatch under forecastle F.P. 29x29 Coaming 27" plate 1/8 wood covers 2 1/2" Bearing surface 1 1/2 clats 18" batten and bearing far. Chain locker. 22 x 20" Coaming 25" plate 1/8 Covers and plating. Same as F.P.		
	Spacing	None	None	None	None	None			
	Unsupported Lengths	None	None	None	None	None			
	Scantling and Sketch	None	None	None	None	None			
HATCH COVERS	Material	Wood	Same as	Wood	Same as	Same as	4-5 x 4 1/2" Coaming 10x3 1/2 BA wood covers 2 1/2" thick. afters. Bearing surface 3" clats batten. Looking far. (1000 ft) Hatch on poop to Casarete. 2-5 x 2-6 Coaming 15" plate 1/8 wood covers 2 1/2" Bearing surface 2 clats 17" batten and looking far. 3 batten. Hatch under forecastle F.P. 29x29 Coaming 27" plate 1/8 wood covers 2 1/2" Bearing surface 1 1/2 clats 18" batten and bearing far. Chain locker. 22 x 20" Coaming 25" plate 1/8 Covers and plating. Same as F.P.		
	Thickness	2 1/4"	Same as	2 1/4"	Same as	Same as			
	How fitted	F + A	None	alwart	3"	None			
	Bearing Surface	2 1/4"	None	2 1/4"	3"	None			
Spacing of Cleats	23"	23"	23"	23"	23"	23"			
Number of Tarpaulins	3	3	3	3	3	3			

*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 fidley, funnel and ventilator coamings: *fidley gratings fitted with 3/16" hinged steel covers. Funnel Coaming 24" riveted to casing top. Two stockhold vents 2-6 dia. Coaming 5-0" plate 1/8". Two Engine room vents 20" dia. Coaming 3-6" plate 1/8". Two engine room vents 10" dia. Coaming 3-0" plate 1/8". Eng room skylight steel heavy glass photo. Coaming 23" plate 1/8".*
Saddle Rock hatch 4-6 x 16-6 Coaming 10x3 1/2 BA. Wood covers 2 1/2" bearing surface 2 1/2" clats 24" batten 2 batten.

Particulars of Flush Bunker Scuttles: *None.*

Particulars of Companionways: *Two on poop leading to crews quarters p.s. 2-3 x 4-0 high 6-0. Doors 2-2 x 4-10 steel hinged worked from both sides. Still 10' above wood deck.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: *Forecastle deck. Two to No 1 hold. 18" dia. Coaming 3-2" plate 1/16". One 8" dia. 24" Coaming to plate to store. Fore well 4 hold vents. 18" dia. 36" Coaming 3/8 plate. AH well. Same as fore well. Bridge deck 2 vents 20" dia to hold. 4 1/2" Coaming 1/16 plate. 4 vents 10" dia. 36" Coaming. 4 plate. Two 16" dia. 94" Coaming by 1/16 plate. Secured by steel bands to house. Poop deck 2 hold vents 18" dia. 36" Coaming. 3/8 plate. Two 10" dia. 36" Coaming 1/4 plate. 6 vents 8" dia. 30 Coaming 1/16 plate to accommodation. Canvas covers and wood plugs for all vents.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *All air pipes in hull decks 36" high with attached wood plugs for closing. Bridge deck on bridge 32". Poop on poop 30".*

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

Bright star

Particulars of Scuppers and Sanitary Discharge Pipes: *All WC's above freeboard deck. Brass storm valves fitted.*

Particulars of Side Scuttles: *No Scuttles below freeboard deck. Dead lights fitted in crews quarters under poop - also in space under forecastle.*

Particulars of Guard Rails: *Bulwarks in way of masts F + A. 5/16 plate mid top rail 7x3 1/2 BA. Stanchions spaced 6-0". 1/2" plate top 12" flanges and riveted to clips on deck. Rails on forecastle. Height 3-3" - 2 rails. 7/8 and 1 1/8 dia. Stanchions 1 1/2" spaced 4-3" - 3-6" - 3-6" - 1/4 and 1" dia. 1 1/2" 4-3". Bulwark on Bridge deck. Height 3-3". 1/4 plate. top angle 3x3x1/4.*

Particulars of Gangways, Lifelines, etc.: *Port and starboard life lines from Bridge to poop P.S. and Bridge to fore. Crew all berthed in poop.*

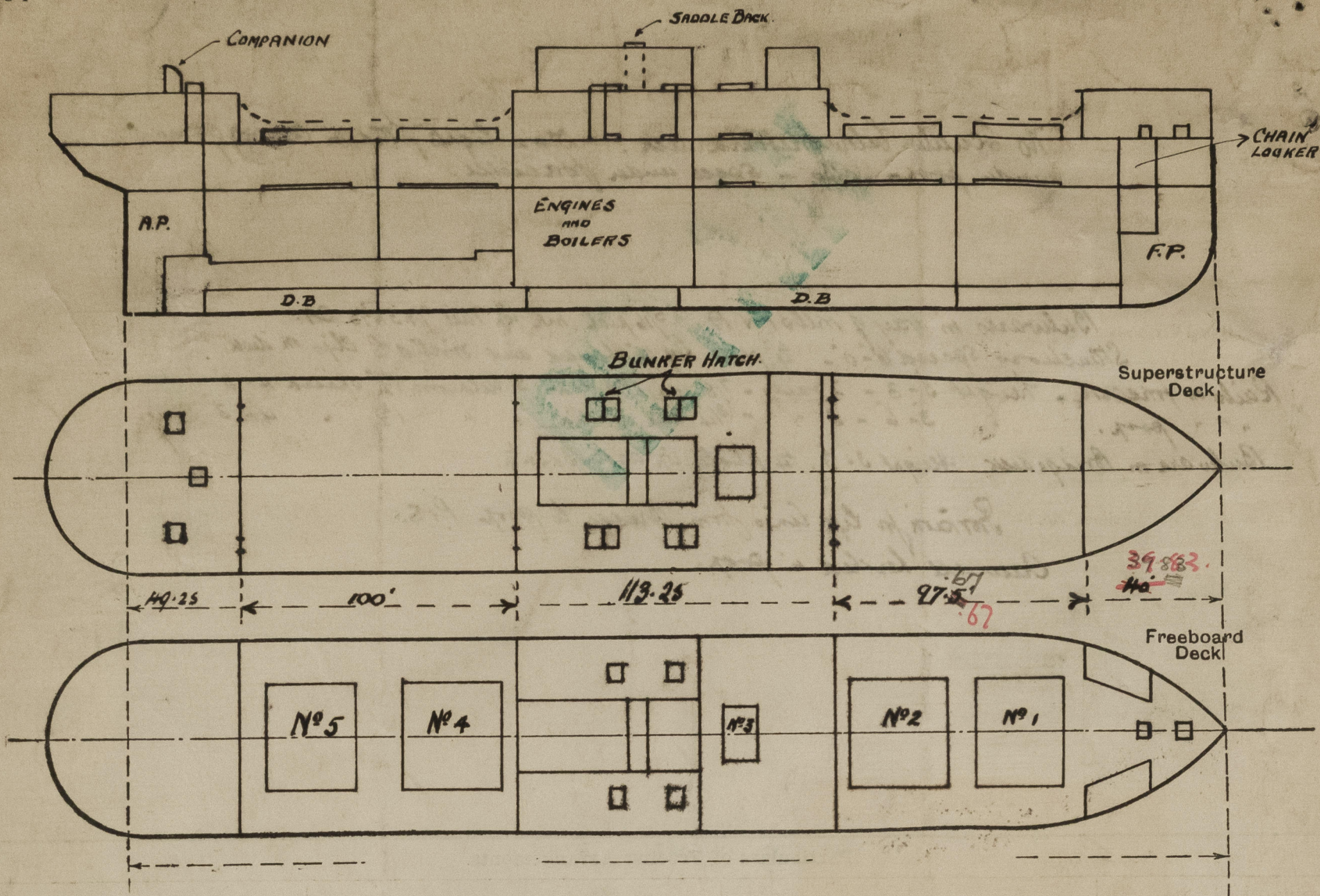
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	100	43"	48x15"	4	20 sq feet	20 sq feet
Forward Well	97.5-63	43	48x15"	4	20	19.53 20 19.53

State position of each freeing port (F. and A. position and height above deck edge) *After Well: 2 evenly divided F + A. 12" above deck edge. Forward Well: 2 rails 7/8 dia.*
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: *2 rails 7/8 dia.*
 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	7/16"	3/8"	6x3 1/2 x 7/16 L	33"	None	2' x 5'	18"	8-0"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	7/16"	3/8"	4x3 x 3/8 L	30"	None	3-3' x 5-0'	18"	8-0"
Bridge, Forward Bulkhead	7/16"	3/8"	9x3 1/2 x 1/2 BA	28 & 33"	Braced	3-6' x 5-0'	18"	8-0"
Forecastle Bulkhead	Open							
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	3/8"	5/16"	3x3 x 3/8 L	26"	Braced at top	24' x 60"	18"	7-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3/8"	5/16"	3x3 x 3/8 L	26"	Continuous	24' x 60"	18"	8-0"
Deckhouses on Flush Deck Ships								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	Heavy steel doors. 3/8" hinged and jointed. Secured by 6 one inch dia bolts worked from outside only.
Raised Quarter Deck Bulkhead	Steel plate with lock bolts. Worked from outside only.
Bridge, After Bulkhead	Heavy steel doors. 3/8" hinged and jointed. Secured by 8 one inch dia hinged bolts. Worked from outside only.
Bridge, Forward Bulkhead	Heavy steel doors. 3/8" hinged and jointed. Secured by 8 one inch dia hinged bolts. Worked from outside only.
Forecastle Bulkhead	Open
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Steel doors hinged operated from both sides.
Exposed Machinery Casings on Superstructure Decks	Steel doors hinged operated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel doors hinged operated from both sides.
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:—



State any special features in the construction of the ship:— *Towels measured & surveyed afloat. Special Survey was completed in August 1933 in Japan.*

Builder's name and yard number. *J. Cougle & Sons Ltd. Vancouver, B.C. No. 11*

Names of sister ships *Seikio Maru. Choyo Maru. Canadian Prospector.*

Owners *Bright Navigation Co. Ltd. London*

Fee £ *80.00*
N.Y. Express 5.00
Tanc. " 10.00.

Received by me *Charles A. Lawrence*



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