

Lloyd's Register of Shipping.

Index. No. **28545**
(For London Office only.)

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Shelter Deck with "Forecastle"

Port of Survey

New York

Date of Survey

July 27, 1952

Name of Surveyor

M. Bennett

Particulars of Classification

*+100A1
S.S. Shelter deck with freeboard
S.S. Shl. No 2-28*

(Type of Superstructures.)

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

*CHING YUEN**Chinese**London**144048**6538**1920-1*Moulded Dimensions: Length *411.5*, Breadth *55.46*, Depth *38'-0 1/2" (Shelter Deck)*Moulded displacement at moulded draught = 85 per cent. of moulded depth *16590* tonsCoefficient of fineness for use with Tables *.786* (see page 4)

Depth for Freeboard (D)

Moulded depth *38.04*Stringer plate *.05*

Sheathing on exposed deck

$$T \left(\frac{L-S}{L} \right) =$$

Depth for Freeboard (D) = *38.09*

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

$$(38.09 - 27.43) 3 = +31.98$$

(b) Where D is less than Table depth (if allowed)

(Table depth - D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) *55.46*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = \frac{665.52}{50} = 13.31$$

Ship's Round of Beam = *nil*

Difference

Restricted to

$$\text{Correction} = \frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{13.31}{4} (1 - 0.0487) = +3.17$$

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					
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Forecastle enclosed <i>Open</i>	<i>40.0</i>	<i>20.03</i>	<i>5.0</i>		<i>20.03</i>
" overhang					
Trunk aft					
" forward					
Trunk opening aft					
" forward					
Total	<i>40.0</i>	<i>20.03</i>			<i>20.03</i>

Standard Height of Superstructure *7'-6"*

" " R.Q.D.

Deduction for complete superstructure *42.00*

$$\text{Percentage covered } \frac{S}{L} = \frac{40.0}{42.00} = 9.72$$

$$\frac{S_1}{L} = \frac{20.03}{42.00} = 4.87$$

$$\frac{E}{L} = \frac{20.03}{42.00} = 4.87$$

Percentage from Table, Line A. (corrected for absence of forecastle (if required)) *2.435*

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

Interpolation for bridge less than 2L (if required)

Deduction = *42 + 0.2435 = -1.02*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>51.15</i>	1		<i>51.15</i>	<i>82.0</i>	<i>82.0</i>	1		<i>51.15</i>
1/2 L from A.P.	<i>22.76</i>	4		<i>91.04</i>	<i>26.1</i>	<i>22.5</i>	4		<i>91.04</i>
3/4 L "	<i>5.62</i>	2		<i>11.24</i>	<i>6.5</i>	<i>0.0</i>	2		<i>11.24</i>
Amidships		4					4		
3/4 L from F.P.	<i>11.25</i>	2		<i>22.50</i>	<i>6.2</i>	<i>0.0</i>	2		
1/2 L "	<i>45.52</i>	4		<i>182.12</i>	<i>24.9</i>	<i>20.5</i>	4		<i>82.00</i>
F.P.	<i>102.30</i>	1		<i>102.30</i>	<i>75.0</i>	<i>75.0</i>	1		<i>75.00</i>
Total				<i>460.35</i>					<i>310.43</i>

Mean actual sheer aft = *Success*

Mean standard sheer aft =

Mean actual sheer forward = *Refining*

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships =

" " aft of " =

$$\begin{array}{r} 11.25 \quad - \quad 3 \quad 33.75 \\ 45.52 \quad 20.5 \quad 3 \quad 136.56 \\ 102.30 \quad 75.0 \quad 1 \quad 102.30 \\ \hline 272.61 \quad 136.50 \quad \frac{A}{S} = 5.008 \end{array}$$

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{149.92}{18} (.75 - 0.0486) = +5.84$$

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 = *38.09*Summer freeboard = *10.08*Moulded draught (d) = *28.01*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *7.00 = 7"*

Addition for Winter North Atlantic Freeboard (if

required =

Deduction for Fresh Water.

Displacement in salt water at

summer load water line

$$\Delta = \frac{14319}{1.025} = 14319$$

Tons per inch immersion at

summer load water line

$$T = \frac{46}{1.025} = 46$$

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

$$= \frac{14319}{40 \times 46} = 7.78$$

$$= 7 \frac{3}{4}"$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.786 + .68}{1.36} = \frac{1.466}{1.36}$$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

*75.08**80.94**31.98**1.02**5.84**3.17**40.99**1.02**39.97*Summer Freeboard = *120.91*

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

Tropical Fresh Water Line above Centre of Disc *14 3/4*Fresh Water Line " " *7 3/4*Tropical Line " " *7*Winter Line below " " *7*Winter North Atlantic Line " " *7*

Tropical Fresh Water Freeboard

Fresh Water " " *9 5/8*Tropical " " *9-6*Winter " " *10-8*Winter North Atlantic " " *10-8*

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
					One	Two	Two		
Description of Hatchway					Noted on	Trimming	Trimming		
Dimensions of Hatchway					Ex. black	Hatch - 50%	Hatch - 50%		
COAMINGS	Height above Deck	30	14'-6 1/2"	9'-8 3/4"	29'-1 1/2"	30' x 34"	26' x 26"	5'-4" x 2'-9"	
	Thickness	1/4"	1/4"	1/4"	1/4"	13	24	30	
	Sides	1/4"	1/4"	1/4"	1/4"	38	38	38	
	Stiffeners	1/4"	1/4"	1/4"	1/4"	38	38	38	
	Brackets, Stays	1/4"	1/4"	1/4"	1/4"	None	None	None	
HATCH BEAMS	Number	5	2	1	5	None	None	None	
	Spacing	4'-8 1/2"	4'-8 1/2"	4'-8 1/2"	4'-8 1/2"	None	None	None	
	Scantling and Sketch	3 1/2 x 3 1/2 x 4 1/2	18 x 36	3 1/2 x 3 1/2 x 4 1/2	None	None	None	None	
	Bearing Surface	3	3	3	3	None	None	None	
	Number	5	2	1	5	None	None	None	
FORE AND AFTERS	Spacing	4'-8 1/2"	4'-8 1/2"	4'-8 1/2"	4'-8 1/2"	None	None	None	
	Unsupported Lengths	3 1/2 x 3 1/2 x 4 1/2	18 x 36	3 1/2 x 3 1/2 x 4 1/2	None	None	None	None	
	Scantling* and Sketch	3 1/2 x 3 1/2 x 4 1/2	18 x 36	3 1/2 x 3 1/2 x 4 1/2	None	None	None	None	
	Bearing Surface	3	3	3	3	None	None	None	
	Number	5	2	1	5	None	None	None	
HATCH COVERS	Material	wood	wood	wood	wood	wood	wood	wood	
	Thickness	3	3	3	3	3	3	3	
	How fitted	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	
	Bearing Surface	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	3 1/4	
	Spacing of Cleats	24	24	24	24	24	24	24	
Number of Tarpaulins	3	3	3	3	3	3	3		

*Are wood fore and afters steel shod at all bearing surfaces? *None.*

Are battens and wedges efficient and in good condition? *Yes.*

Are tarpaulins in good condition and in accordance with rule requirements? *Yes. Strong and waterproofed.*

Are lashings provided in accordance with rule requirements? *Yes. Lashing bare. Four on Nos 1, 2, 5+6. Two on No 3. One on No 4.*

Particulars of fiddley, funnel and ventilator coamings :—

Fiddley has $3\frac{1}{2}$ " angle bar coaming riveted to steel Boat deck. Fiddley closed by satisfactory steel covers secured from below. No openings in funnel which is riveted to steel Boat deck. E.L. coaming is 1 $\frac{1}{2}$ " wide @ centre. Closed with strong steel hinged flaps, secured from below.

There are two - 21" dia. vents to E.L. - 5 ft. coaming x $\frac{5}{8}$ " above Boat Deck } no stays.
and two - 30" " " " - 10 ft. " x $\frac{3}{8}$ " " " provided with wood covers and compass.

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways :—

Access to Crews quarters at after end is through a strong steel companionway. This has two steel hinged doors, each 62" x 24", 15" sills. Doors are fitted with handles. Operable from either side.

Number	Position	Dia.	Length	Remarks
1	Fore	3 1/2"	21'	
2	Fore	3 1/2"	21'	
3	Fore	3 1/2"	21'	
4	Fore	3 1/2"	21'	
5	Fore	3 1/2"	21'	
6	Fore	3 1/2"	21'	
7	Fore	3 1/2"	21'	
8	Fore	3 1/2"	21'	
9	Fore	3 1/2"	21'	
10	Fore	3 1/2"	21'	
11	Fore	3 1/2"	21'	
12	Fore	3 1/2"	21'	
13	Fore	3 1/2"	21'	
14	Fore	3 1/2"	21'	
15	Fore	3 1/2"	21'	
16	Fore	3 1/2"	21'	
17	Fore	3 1/2"	21'	
18	Fore	3 1/2"	21'	
19	Fore	3 1/2"	21'	
20	Fore	3 1/2"	21'	
21	Fore	3 1/2"	21'	
22	Fore	3 1/2"	21'	
23	Fore	3 1/2"	21'	
24	Fore	3 1/2"	21'	
25	Fore	3 1/2"	21'	
26	Fore	3 1/2"	21'	
27	Fore	3 1/2"	21'	
28	Fore	3 1/2"	21'	
29	Fore	3 1/2"	21'	
30	Fore	3 1/2"	21'	
31	Fore	3 1/2"	21'	
32	Fore	3 1/2"	21'	
33	Fore	3 1/2"	21'	
34	Fore	3 1/2"	21'	
35	Fore	3 1/2"	21'	
36	Fore	3 1/2"	21'	
37	Fore	3 1/2"	21'	
38	Fore	3 1/2"	21'	
39	Fore	3 1/2"	21'	
40	Fore	3 1/2"	21'	
41	Fore	3 1/2"	21'	
42	Fore	3 1/2"	21'	
43	Fore	3 1/2"	21'	
44	Fore	3 1/2"	21'	
45	Fore	3 1/2"	21'	
46	Fore	3 1/2"	21'	
47	Fore	3 1/2"	21'	
48	Fore	3 1/2"	21'	
49	Fore	3 1/2"	21'	
50	Fore	3 1/2"	21'	
51	Fore	3 1/2"	21'	
52	Fore	3 1/2"	21'	
53	Fore	3 1/2"	21'	
54	Fore	3 1/2"	21'	
55	Fore	3 1/2"	21'	
56	Fore	3 1/2"	21'	
57	Fore	3 1/2"	21'	
58	Fore	3 1/2"	21'	
59	Fore	3 1/2"	21'	
60	Fore	3 1/2"	21'	
61	Fore	3 1/2"	21'	
62	Fore	3 1/2"	21'	
63	Fore	3 1/2"	21'	
64	Fore	3 1/2"	21'	
65	Fore	3 1/2"	21'	
66	Fore	3 1/2"	21'	
67	Fore	3 1/2"	21'	
68	Fore	3 1/2"	21'	
69	Fore	3 1/2"	21'	
70	Fore	3 1/2"	21'	
71	Fore	3 1/2"	21'	
72	Fore	3 1/2"	21'	
73	Fore	3 1/2"	21'	
74	Fore	3 1/2"	21'	
75	Fore	3 1/2"	21'	
76	Fore	3 1/2"	21'	
77	Fore	3 1/2"	21'	
78	Fore	3 1/2"	21'	
79	Fore	3 1/2"	21'	
80	Fore	3 1/2"	21'	
81	Fore	3 1/2"	21'	
82	Fore	3 1/2"	21'	
83	Fore	3 1/2"	21'	
84	Fore	3 1/2"	21'	
85	Fore	3 1/2"	21'	
86	Fore	3 1/2"	21'	
87	Fore	3 1/2"	21'	
88	Fore	3 1/2"	21'	

None

Particulars of Scuppers and Sanitary Discharge Pipes —

Shelter deck is scupperned by 4" copper pipes led down ship's side to about 15' above 2nd deck. 77. *valves.*
78. toilets, baths etc. below level of shelter deck. Baths and n.e. discharge from above shelter deck (sewer in number), all have brass clapper valves fitted on outlets - 4" soil pipes. 2 1/2" bath discharge.

Particulars of Side Scuttles :

Cast steel deadlights are fitted on all porthlights in tween deck accommodation space at aft end. None situated elsewhere, except inside fore-castle space, which, altho have v.s. deadlights fitted.

Particulars of Guard Rails :—

Closed bulwark for a portion \boxtimes (see sketch). Elsewhere, and on forecastle deck - open rails. Both bulwark and open rails are 42" high. Latter has three rails. Bulwark has 6" B.A. rail, and stays 5 feet apart.

Particulars of Gangways, Lifelines, etc. :—

No gangway required. Lifelines are arranged by master when needed.

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
<i>Midships</i> After Well	84'	42"	24" x 18"	2	6 sq. ft.	✓
Forward Well	✓					

State position of each freeing port { After Well:— *Ends of bulwark. Lower edge 3 1/2" above deck.*
(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:— *Two bars on each.*

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	Open							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	5/8	5/16	3 1/2 x 3 x 1/4 O.A.	36"	None	<div> <div>62 x 24 1 P. 18. }</div> <div>to stow hold.</div> <div>63 x 28 1 P. 18. }</div> <div>Two Passageway</div> <div>62 x 33 1 P. 18. }</div> <div>All Passageway</div> <div>63 x 25 1 P. 18. }</div> <div>ER Ceiling None inside</div> </div>	18	} 8'
Exposed Machinery Casings on Superstructure Decks	✓						15	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓						18	
Deckhouses on Flush Deck Ships ...	✓						18	

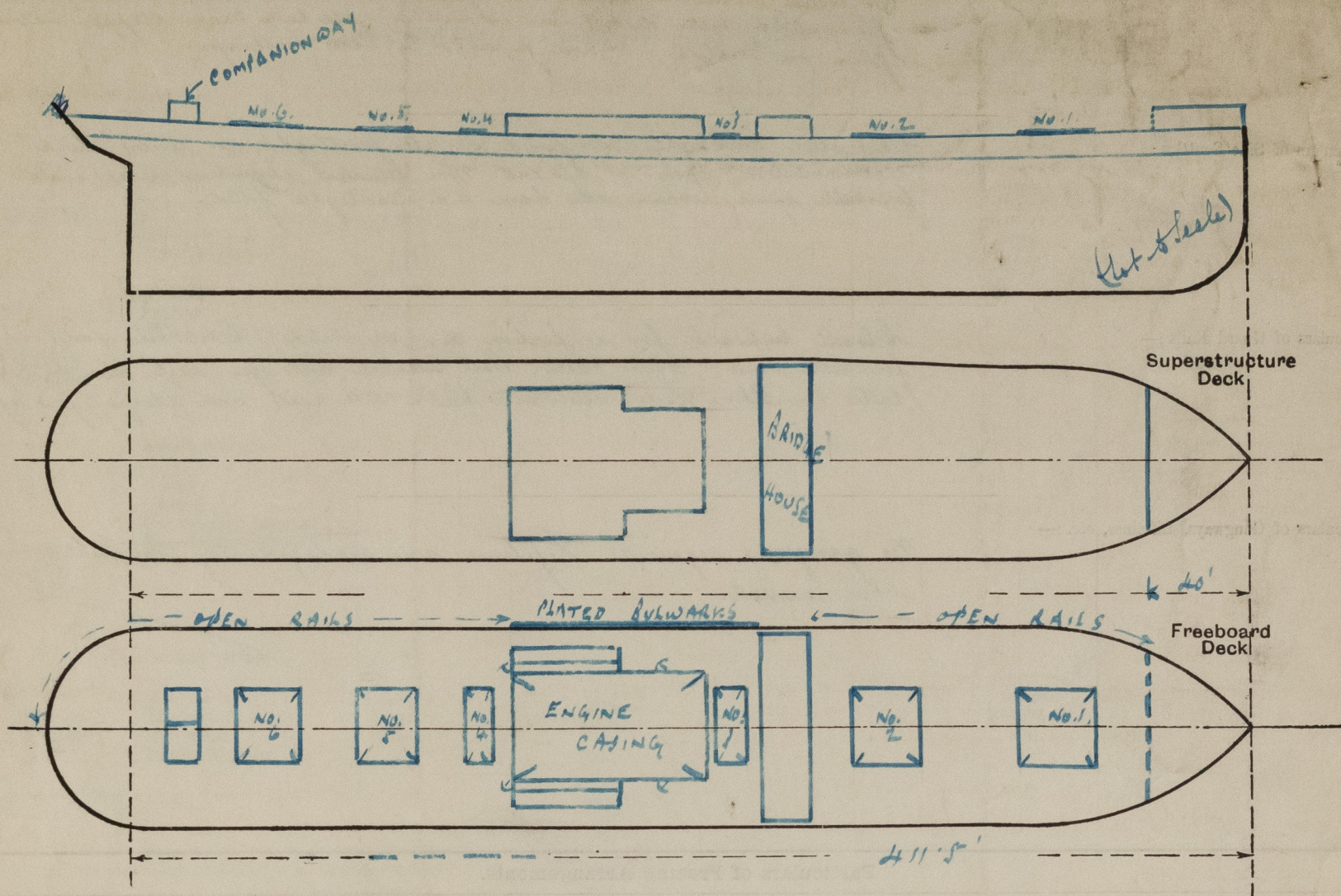
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	✓	
Raised Quarter Deck Bulkhead ...	✓	
Bridge, After Bulkhead	✓	
Bridge, Forward Bulkhead	✓	
Forecastle Bulkhead	✓	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	Open
Exposed Machinery Casings on Superstructure Decks ...	✓	Stokehold doors - Steel - in Saloon - Bath on lower half - Yes
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	Passageway doors - Weld - Steel - in one - Passage for closing - Yes
Deckhouses on Flush Deck Ships ...	✓	Passageway doors - Apt - Kinged wood - Handle left side. Yes
		(Closing doors - inside) Steel - in one - Handle - Yes

Open

Stinkhole doors -	Steel - in balance -	Bolt on lower half.	Yes
Pasagway doors -	Yard - Steel - in one -	Clasp for locking	Yes
Pasagway doors -	Aft -	inged wood -	Handle left side
Casing doors -	(inside) Steel - in one -	Handle	Yes

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:—

*Shovel surveyed while lying afloat at Pier 2,
Shaken Island, N.Y.
Deadweight at full draft of 28'0" - 10,500 tons } Taken from
28'1" - 10,450 " } Owners' plan*
W.D.

Builder's name and yard number *Harland & Wolff, Ltd.*

Names of sister ships *"New Toronto" "New Brooklyn" "New Columbia" "New Brunswick" "New Tross"*

Owners *African S. S. Co.*

Fee *£ 90.00* : : Received by me

charged c. two feet



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