

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 3020
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Poop, Bridge and Forecastle.*

Port of Survey *Shanghai.*
Date of Survey *1st December 1933.*
Name of Surveyor *S. Picken.*
Particulars of Classification *+100 A1.*

RAYANDAMAN (Type of Superstructures.)
Ship's Name *Jing Sang* Nationality and Port of Registry *British Hong Kong* Official Number *146517* Gross Tonnage *2256* Date of Build *1922*
Moulded Dimensions: Length *285'0"* Breadth *42'6"* Depth *22'3"*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *4740* tons
Coefficient of fineness for use with Tables *.724*

Depth for Freeboard (D)
Moulded depth ... *22'3"*
Stringer plate *1/2"* ... *.04*
Sheathing on exposed deck *2 1/2"*
 $T \left(\frac{L-S}{L} \right) = 2.5 \left(\frac{285-174.82}{285} \right) = .39$
Depth for Freeboard (D) = *22'4"*

Depth correction
(a) Where D is greater than Table depth
(D - Table depth) R = $(22.37 - 19.00) 2.193 = +7.39"$
(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) *42'50"*
Standard Round of Beam = $\frac{B \times 12}{50} = 10.20"$
Ship's Round of Beam = *10 3/4"*
Difference *.55"*
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.55}{4} \times .3921 = -.05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.66	32.66	7'3"		32.66
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...	97.62	97.62	7'3"		97.62
Bridge enclosed ...	104.00	97.62	7'3"		97.62
" overhang aft ...	6.38	4.79			4.79
" overhang forward ...					
Trunk enclosed ...	38.16	38.16	7'3"		38.16
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	174.82	173.23			173.23

Standard Height of Superstructure *6'35"*
" " R.Q.D. *✓*
Deduction for complete superstructure *34.33"*
Percentage covered $\frac{S}{L} = 61.35\%$
" $\frac{S_1}{L} = 60.79\%$
" $\frac{E}{L} = 60.79\%$
Percentage from Table, Line A. *✓*
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. *✓*
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = $34.33 \times .4734 = 16.25$

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	38.50	1	38.50	45.00	45.00	1	45.00
1/4 L from A.P. ...	17.13	4	68.52	19.55	19.55	4	78.20
1/2 L " ...	4.235	2	8.47	4.89	4.89	2	9.78
Amidships ...	✓	4	✓	✓	✓	4	✓
3/4 L from F.P. ...	8.47	2	16.94	9.92	9.92	2	19.84
1/4 L " ...	34.26	4	137.04	39.70	39.70	4	158.80
F.P. ...	77.00	1	77.00	84.00	84.00	1	84.00
Total ...	346.5		346.47				395.62

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{49.15}{18} (.75 - .3067) = -1.21$
If limited on account of midship superstructure.

Mean actual sheer aft = *Excess*
Mean standard sheer aft
Mean actual sheer forward = *Excess*
Mean standard sheer forward
Length of enclosed superstructure forward of amidships = *> .1L*
" " aft of " = *> .1L*

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

Ft.
Depth to Freeboard Deck = *22'50"*
Summer freeboard = *2'71"*
Moulded draught (d) = *19'79"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$
Tons per inch immersion at summer load water line
T =
Deduction = $\frac{\Delta}{40T}$ inches

TABULAR FREEBOARD corrected for Flush Deck (if required)

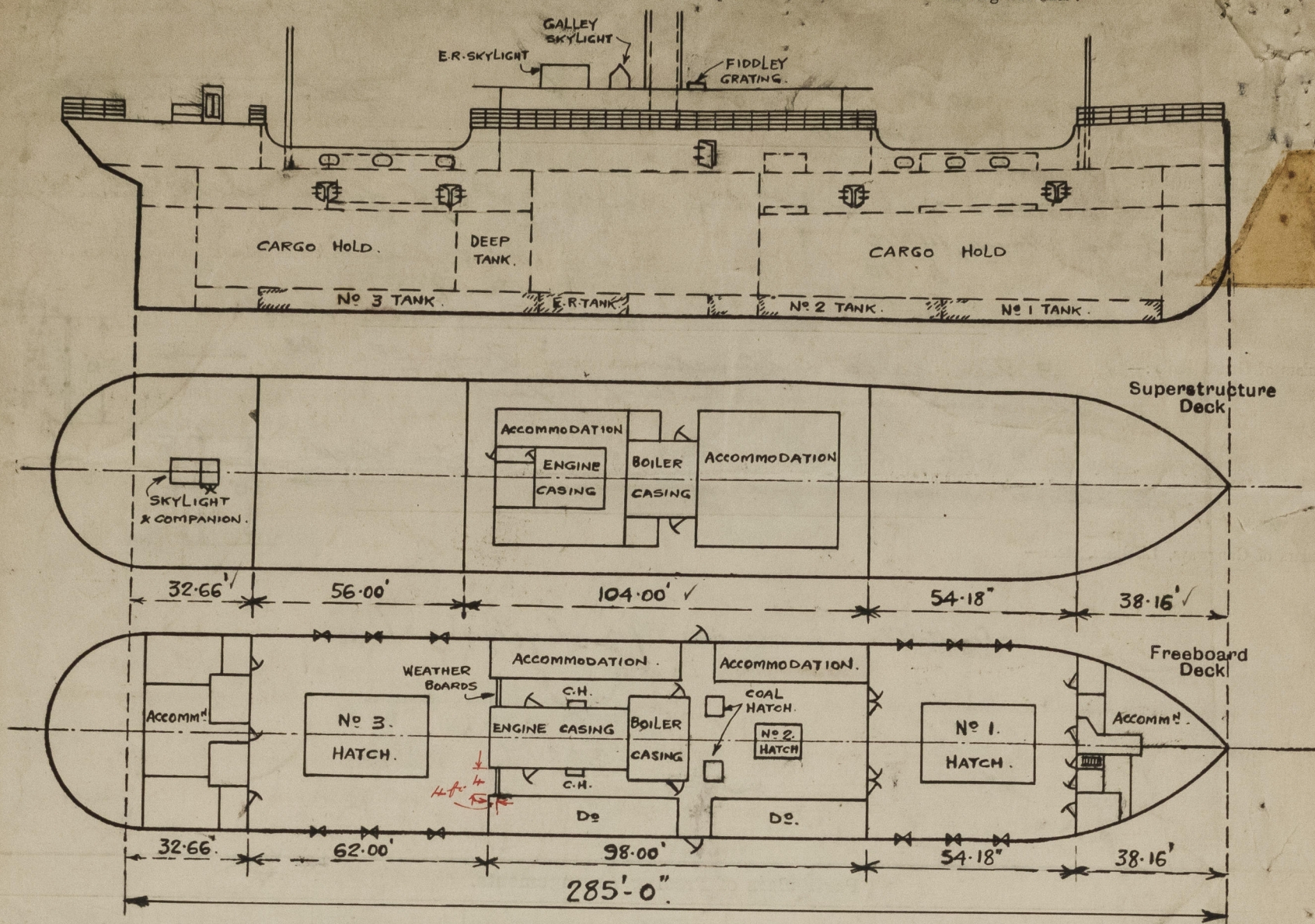
Correction for coefficient $\frac{.724 + .68}{1.36} = \frac{1.404}{1.36}$
Depth Correction ... *7.39*
Deduction for superstructures ... *16.25*
Sheer correction ... *1.21*
Round of Beam correction ... *.05*
Correction for Thickness of Deck amidships ... *1.56*
Other corrections, scantlings, etc. ...

Summer freeboard = *32'58"*

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

Tropical Fresh Water Line above Centre of Disc ...	8 1/2"	Tropical Fresh Water Freeboard ...	2'8 3/4"
Fresh Water Line ...	5"	Fresh Water ...	2'0 1/4"
Tropical Line ...	3 1/2"	Tropical ...	2'3 3/4"
Winter Line ...	3 1/2"	Winter ...	2'5 1/4"
Winter North Atlantic Line ...	5 1/2"	Winter North Atlantic ...	3'0 1/4"
		Winter North Atlantic ...	5'2 1/4"

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:—



Sheathing on the Freeboard Deck. $5 \times 2\frac{1}{2}$ " Teak in wells and $5 \times 2\frac{1}{2}$ " Oregon Pine in accommodation

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

$$\begin{array}{r} \text{Hull end of Bridge} \\ \text{Recess. } 4 \times 4 \\ 42.50 \\ 98.00 \\ - .38 \\ \hline 97.62 \text{ vegins} \end{array}$$

$$\begin{array}{r} 104.00 \\ 97.62 \\ \hline 6.38 \text{ O.H} \end{array}$$

Vessel surveyed afloat.

Builder's name and yard number *Messrs. Dunlop Bremner & Co. Ltd., Port Glasgow.*

Name of sister ship *Fau Sang.*

Owners *The Indo China Steam Navigation Co. Ltd. Shanghai, Hong Kong.*

Fee £ # 295:

Exp. 5

Call Repam 33.50.

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