

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker
having combined Poop & bridge with forecastle
Port of Survey Hongkong
Hai Hsia (Type of Superstructures.)
Date of Survey Jan. 25th Feb. 8th + 14th 1933
Ship's Name "YUEN SANG" Nationality and Port of Registry British Hongkong Official Number 152444 Gross Tonnage 3229 Date of Build 1923 - 12 mo.
Name of Surveyor J. H. Morrison
Moulded Dimensions: Length 309' 5" Breadth 46' 0" Depth 25' 0"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 5810 tons
Coefficient of fineness for use with Tables .672 Lowest in Tables .68
Particulars of Classification +100 A1
Seathy. No 2-32

Depth for Freeboard (D)				Depth correction		Round of Beam correction	
Moulded depth	25' 0"	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	46' 0"
Stringer plate	4 1/2"	...	04"	(25' 09" - 20' 63") 2.380 =	+ 10' 61"	Standard Round of Beam = $\frac{B \times 12}{50}$	11' 04"
Sheathing on exposed deck	2 1/2" Teak	...		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	12"
T $\left(\frac{L-S}{L}\right)$	=	$\frac{21 \times .2226}{.21 \times .2226}$.05	If restricted by superstructures		Difference	.96
Depth for Freeboard (D) =			25' 09"			Restricted to	.96
						Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.96}{4} \times .2226 = .05$

DEDUCTION FOR SUPERSTRUCTURES.						Standard Height of Superstructure	
	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	"	R.Q.D.
Bridge							
Poop enclosed	200' 5"	200' 50"	7' 7 1/2"		200' 50"		6' 59 1/2"
" overhang			+ 2 1/2" wood				4' 79 1/2"
R.Q.D. enclosed							35' 96"
" overhang							
Bridge enclosed							
" overhang aft							
" overhang forward							
Forecastle enclosed	40' 08"	40' 08"	7' 5"		40' 08"		
" overhang			+ 2 1/2" wood				
Trunk aft							
" forward							
Tonnage opening aft							
" forward							
Total	240' 58"	240' 58"			240' 58"		
						Percentage covered $\frac{S}{L}$	77.74%
						" $\frac{S_1}{L}$	77.74%
						" $\frac{E}{L}$	77.74%
						Percentage from Table, Line A.	72' 52"
						(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 =	26' 08"

SHEER CORRECTION.								Mean actual sheer aft	
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	40' 95"	1		40' 95"	49' 50"	49' 50"	1		65' 78"
1/2 L from A.P.	18' 22"	4		72' 88"	18' 50"	18' 56"	4		116' 04"
3/4 L	4' 50"	2		9' 00"	4' 50"	4' 64"	2		14' 50"
Amidships		4		0			4		
3/4 L from F.P.	4' 01"	2		18' 02"	9' 75"	9' 77"	2		19' 54"
1/2 L	36' 44"	4		145' 76"	39' 02"	39' 10"	4		156' 40"
F.P.	81' 90"	1		81' 90"	84' 00"	84' 06"	1		84' 00"
Total				368' 51"					455' 76"
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$								Mean actual sheer forward	
								Mean standard sheer forward	
If limited on account of midship superstructure.								Length of enclosed superstructure forward of amidships =	
								aft of	

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 25' 25"

Summer freeboard = 2' 54"

Moulded draught (d) = 22' 71"

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5' 6 3/4"

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line $\Delta = 6327$

Tons per inch immersion at summer load water line T = 28' 25"

Deduction = $\frac{\Delta}{40T}$ inches = 5' 60"

$\frac{d}{4} = 5' 3/4$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient Lowest in Tables

	+	-
Depth Correction	10' 61"	
Deduction for superstructures		26' 08"
Sheer correction		1' 75"
Round of Beam correction		.05
Correction for Thickness of Deck amidships	1' 92"	
Other corrections, scantlings, etc.		
	12' 53"	27' 88"
Summer Freeboard	30' 42"	

24 MAR 1933

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

Tropical Fresh Water Line above Centre of Disc	...	11 1/2"	Tropical Fresh Water Freeboard	...	2' 6 1/2"
Fresh Water Line	"	5 3/4"	Fresh Water	"	2' 0 3/4"
Tropical Line	"	5 3/4"	Tropical	"	2' 0 3/4"
Winter Line below	"	5 3/4"	Winter	"	3' 0 1/4"
Winter North Atlantic Line	"	7 3/4"	Winter North Atlantic	"	3' 2 1/4"

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11/10/40

MARKING FORM
RECEIVED 8/8/33

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

Description of Hatchway	On Freeboard Deck									
	HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Dimensions of Hatchway	N°1	N°2	N°3	N°4	N°5	Coaming (2 off)	Coaming (4 off)	To Chain + Store (2 off)	To Strong Room (1 off)	N°5 cargo
Height above Deck	30 1/2"	24 1/2"	12 3/4"	6 5/8"	30 7/8"	3 1/2"	4 1/2"	2 1/2"	3 1/2"	30 7/8"
Thickness Sides	4 1/4"	4 1/4"	9 1/2"	10 1/2"	10 1/2"	8 1/2"	8 1/2"	3 3/4"	8 1/2"	4 1/4"
Stiffeners	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20
Brackets, Stays	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20	BA 7x3x8/20
HATCH BEAMS	Number ...	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
Spacing ...	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
Scantling and Sketch	plate 16x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 9x7/20 angles 3x3x8/20	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44	plate 15x36 angles 4x3x44
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
FORE AND AFTERS	Number ...	None	None	None	None	None	None	None	None	None
Spacing ...	None	None	None	None	None	None	None	None	None	None
Unsupported Lengths	None	None	None	None	None	None	None	None	None	None
Scantling and Sketch	None	None	None	None	None	None	None	None	None	None
Bearing Surface	None	None	None	None	None	None	None	None	None	None
HATCH COVERS	Material ...	Pine	Pine	Pine	Pine	Pine	Pine	Pine	Pine	Pine
Thickness ...	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
How fitted	F+A	F+A	F+A	F+A	F+A	F+A	F+A	F+A	F+A	F+A
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3"
Spacing of Cleats	25"	25"	25"	25"	25"	25"	25"	25"	25"	25"
Number of Tarpaulins	3	3	3	3	3	3	3	3	3	3

Particulars of fiddle, funnel and ventilator coamings:—
 Stokeshold gratings covered by strong steel hinged covers.
 Fiddle + funnel ventilator in efficient condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:— None

Particulars of Companionways:— Double companion aft enclosed by steel deck house on poop, leading to 2nd class accommodation on freeboard deck, doors of solid wood 1 1/2" thick with 16" sills, doors can be operated from both sides.
 one companion on freeboard deck leading to 2nd deck, enclosed by aft end of E.R. casing, door of steel with 18" sill, can be operated from both sides.
 one companion on freeboard deck leading to 2nd deck, enclosed by forecabin, door of steel, watertight, sill 12 1/2", can be operated from both sides.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 Forecabin:— 2-12" dia. coaming 36"x1/2" to Fale. 4-12" dia. coaming 30"x9/20 to N°2 hold.
 1-12" " 24"x1/2" to F.P. Store 5-18" " 30"x1/2" to aft hold.
 1-8" " 34"x9/20 to F.P. Store 1-18" " 30"x1/2" to aft hold.
 2-18" " 36"x1/2" to N°1 Hold 1-12" " 30"x9/20 to aft hold.
 1-12" " 30"x9/20 to aft hold.
 2-12" " 30"x9/20 to aft hold.
 12-6"x4" " 15 1/2" high.
 Fore Well:— 2-18" dia. coaming 36"x1/2" to N°1 hold 1-12" " 30"x9/20 to aft hold.
 2-18" " 36"x1/2" to N°2 hold 1-12" " 30"x9/20 to aft hold.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 Forecabin:— 1-2 1/2" dia. x 24" high to F.P. tank. 2-4" dia. x 20" high to N°3 Tank.
 1-3 1/2" " x 13" " to N°1 Tank. 3-4" " x 20" " to N°4 " .
 2-3 1/2" " x 14" " to N°5 " .
 2-3" " x 16" " to N°6 " .
 2-2 1/2" " x 16" " to AP " .
 All air pipes of steel + closed with wood plugs + canvas covers.

Particulars of Gangway Cargo and Coaling Ports:— 3-watertight cargo doors P.+S. between bridge + freeboard decks, 5'-0" x 4'-0", efficiently constructed.
 1-watertight coaling door P.+S. between bridge + freeboard decks, 5'-0" x 3'-0" efficiently constructed.
 3-watertight cargo doors P.+S. between freeboard and 2nd deck, 3'-3" x 2'-9", efficiently constructed.

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Particulars of Scuppers and Sanitary Discharge Pipes:— Scuppers from Poop + bridge space led overboard through gunmetal storm valves at ship's side with plate plugs at inner ends.
 All sanitary discharges fitted with gunmetal storm valves at ship's side + efficient traps at inner ends.

Particulars of Side Scuttles:— All side scuttles in Poop, bridge, forecabin + tween decks fitted with hinged deadlights + all of substantial construction.
 Sill of lowest side scuttle 22" below freeboard deck amidships.

Particulars of Guard Rails:— Guard rails on forecabin 3'-8" high, having 3 rods + stanchions spaced 4'-3" apart.
 Guard rails on Poop + bridge 3'-8" " " 4 rods " spaced 4'-0" apart.

Particulars of Gangways, Lifelines, etc.:— In Fore Well:— steel ladder from bridge to N°2 hatch and permanent permanent steel plate ganway between N°1 + 2 hatches, with portable stanchions + steel wire each side.

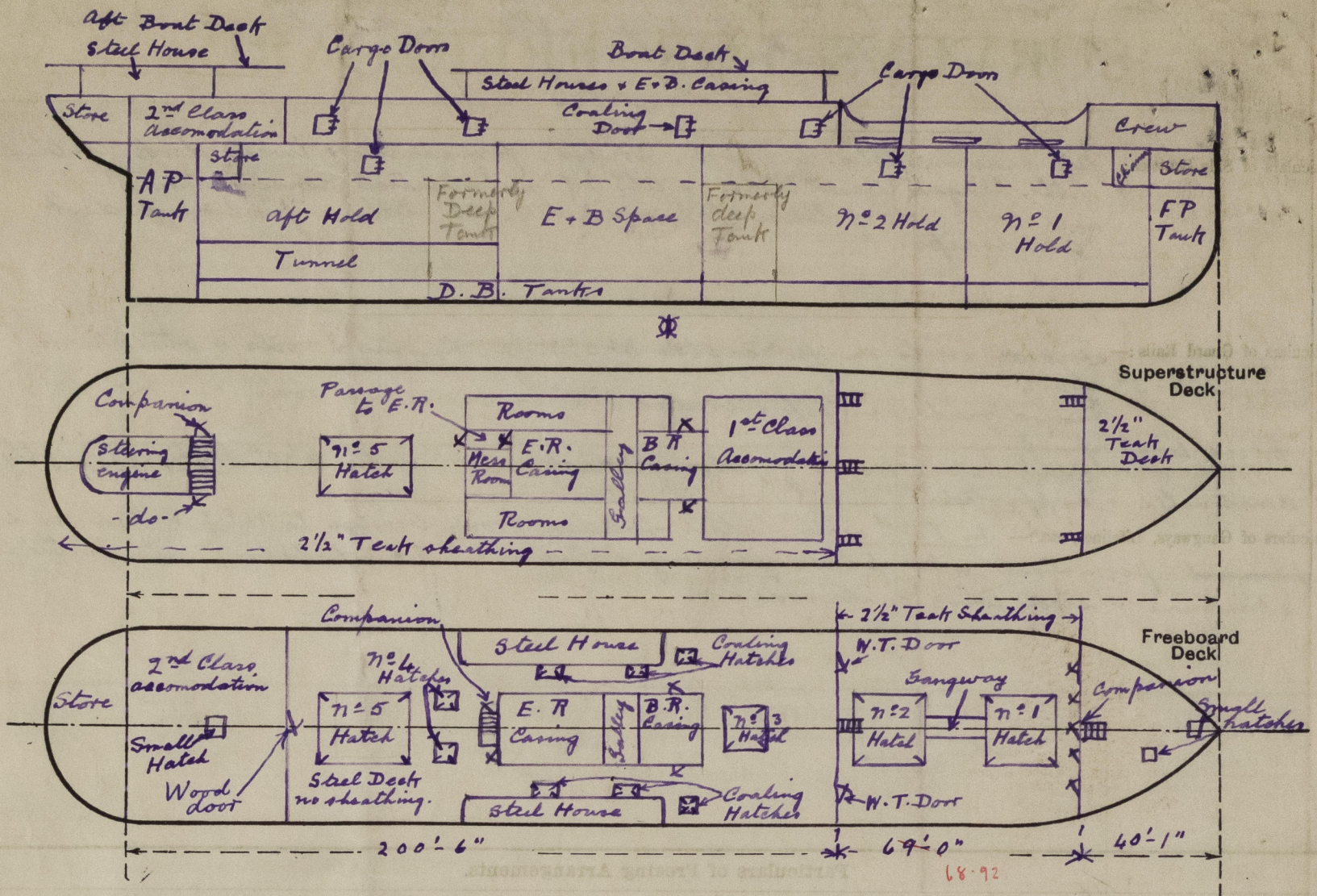
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	✓					
Forward Well	69'-0" 68.92	4'-0"	12'-0" x 6"	3	18.0 sq	13.8 sq
State position of each freeing port ... After Well:— 12" (F. and A. 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:— None 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	✓							
Poop + Bridge, Forward Bulkhead	9/20"	7/20"	6x3x16 BA	24"	Brackets	5' x 3'	16"	7'-9"
Forecabin Bulkhead	7/20"	4/20"	4 1/2 x 3 x 1/20 angles	28"	Takes Top + bott. angles	5'-4" x 2'-0"	12 1/2"	7'-6"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓							
Exposed Machinery Casings on Superstructure Decks	40	30	3 1/2 x 2 1/2 x 30 angles	24 1/2"	Brackets, top + bott. angles	5'-4" x 1'-10"	10 1/2"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	34	28	- do -	- do -	Takes top + bott. angles	5'-3" x 2'-2"	16"	7'-9"
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	✓
Poop + Bridge, Forward Bulkhead	2-Watertight hinged steel doors, can be operated from both sides.
Forecabin Bulkhead	1-Steel watertight door to companion, can be operated from both sides. 14-panelled wood door 1 1/2" thick to forecabin, can be operated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓
Exposed Machinery Casings on Superstructure Decks	1-Hinged wood door to E. Room, 1 1/2" thick, can be operated from both sides. 2-Hinged steel doors to B. Room.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	3-Hinged steel doors, can be operated from both sides.
Deckhouses on Flush Deck Ships	✓

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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:—

Vessel surveyed in dry dock, condition survey only.

The deep tanks have been dispensed with & bulkheads at frames 42 & 91 have been removed at this time & suitable compensation fitted.

Omit

Builder's name and yard number. *The Hongkong & Whampoa Dock Co. Ltd Yard No 594*

Names of sister ships. *"Sui Sang"*

Owners. *Indo China Steam Navigation Co. Ltd*

Fee *£380.00*

Received by me

Omit



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