

DISCLOSED SECTION

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LLOYD'S REGISTER OF SHIPPING.
(CLASSIFICATION SOCIETY RECOGNISED BY THE JAPANESE GOVERNMENT)
SURVEY FOR FREEBOARD.

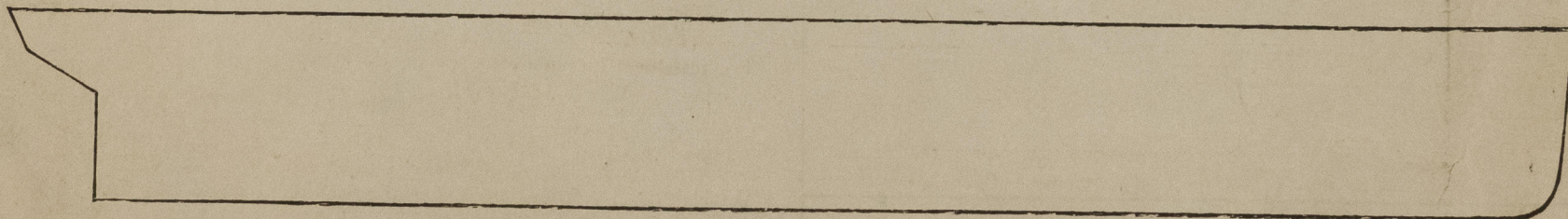
TITIBU MARU

Ship's Name "CHICHIBU MARU"	Port of Registry Tokio.	Official No. --	No. in R.B. --	Gross Tonnage About 17000	Tonnage under Fbd. Deck = V --	Date of Launch 8th May 1929	Date when Built Building	Report Number 65
Owners Nippon Yusen Kaisha.		Builders Yokohama Dock & Eng. Co.		Yard No. 170		Port of Survey Yokohama.		
Type of vessel Light Scantling with Combined Bridge and Forecastle.		Particulars of Classification * 100 A. 1. "With freeboard"		Position of Freeboard Deck Upper Deck.		Date of Survey While Building.		
						Name of Surveyor A. McGlashan & H. J. Cox.		

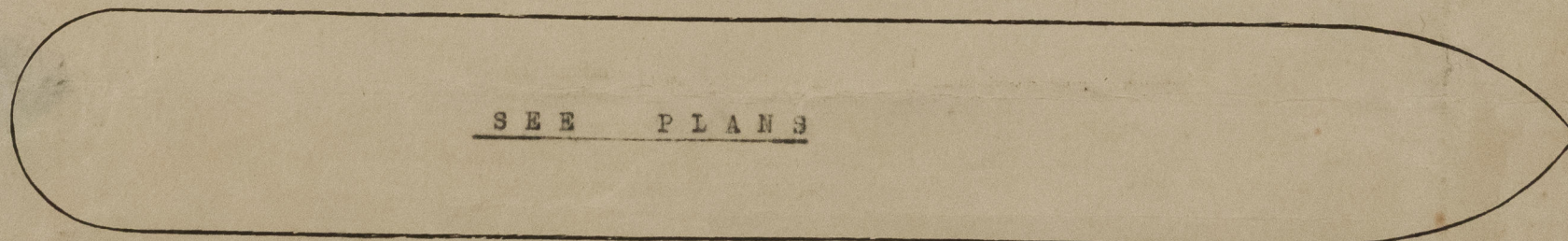
PRINCIPAL DIMENSIONS.		
Length between perpendiculars	560 ft.	Breadth Moulded = B ₀
Length on Load Line	560 ft.	Thickness of Side plating in ins. x 3/12 * + ft.
		*(2/12 if plating is jogged)
Length for Freeboard = L	560 ft.	Breadth for Freeboard = B
		Depth Moulded to Fbd. deck = D ₀ 42.56 ft.
		Round of Beam + ft.
		Depth from base line to top of inner bottom plating or ordinary floors - ft.
		Depth for Tonnage Coef. (Art. 39) = D - ft.

CORRECTION TO TONNAGE (Art. 39)				DEPTH OF DOUBLE BOTTOM (Art. 39)					
Tonnage between top of ceiling on double bottom or ordinary floors as fitted and standard level of top of ceiling (v) = _____ tons.				Depth of Actual Double Bottom (including plating) or Ordinary Floors _____ ins.					
				Depth of Standard Double Bottom (including plating) or Ordinary Floors _____ ins.					
				Difference _____					
				x 1/12 = _____ = d					
SHEER (Arts. 39 and 60-63)				FRAMING (Art. 39)					
Ordinate	Height of Sheer in inches.	S.M.	Products	Between Frames	Length in ft.	Depth of Frame in ins.	Thickness of Sparring in inches	Total depth in inches	Product ft. x inches
1	108	1	108.00						
2	48.5	4	194.00						
3	11.88	2	23.76						
4	0	4	0						
5	4	2	8.00						
6	16.13	4	64.52						
7	36.20	1	36.38						
Sum of Products =			434.66	Sum of Products =					
Mean Height of Sheer = S =			24.15 ins.	Sum of Products = Actual Mean Depth of framing _____ ins.					
Standard Mean Height = S ₀ = 1/3(L/10 + 10) =			22.00 ins.	Standard " " " " _____ ins.					
Difference			2.15 x 1/12 = _____ ft. = d ₁	Difference _____ x 2/12 = _____ = 2b					
Correction (Arts. 60-63) = 3/4 (1 - e) (S ₀ - S) =			2 x .406 x 2.15 = .66 ins.						

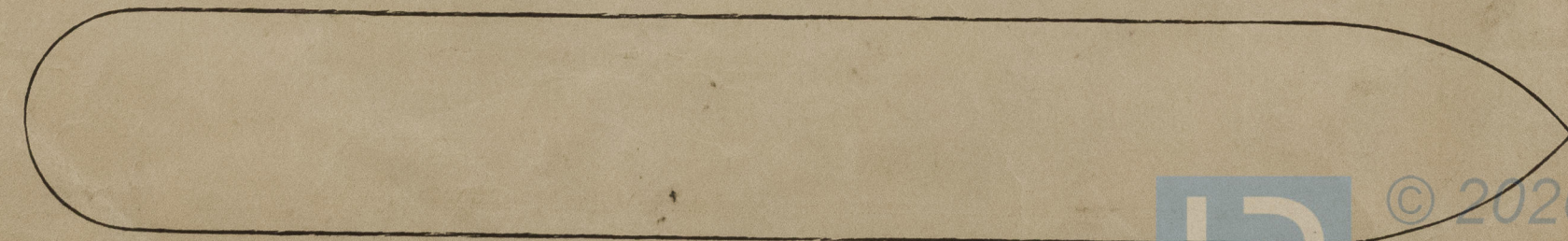
COEFFICIENT OF FINENESS (Art. 37 or 43)		85% of 42.56 = 36.18 d₀
$\frac{100 (V + v)}{L (B - 2b) (D + d + d_1) + n}$		or $\frac{35 \times \Delta}{L \times B_0 \times d_0} + 0.04$
= _____ + =		$\frac{29640 \times 35}{560 \times 74 \times 36.18} + 0.04 = .73$



Sketch showing arrangement and height of double bottom or ordinary floors and of superstructures (unless complete plans are submitted).



SEE PLANS



Sketch of deck erections showing openings in end bulkheads and position and arrangement of closing appliances. Hatchways, and Engine and Boiler openings also to be shown. Extent and thickness of wood deck or composition to be shown in red ink, and extent and thickness of ceiling (and battens) on tank top to be given.

WOOD DECK (Arts. 5 and 6)

	Mean Length in ft.	Thickness in ins.	Products
Forecastle			
Bridge	479	3 1/2" = .44	1465.74
Poop or R.Q.D.		= 3.06	
Open Deck, ford.			
" " aft.	81	3"	243

Total length = $l = 560$ Sum of Products = 1708.74
Sum of Products = $t = 3.05$ ins.; $\frac{\text{Sum of Products}}{L} = t_1 = 3.05$ ins.

CORRECTION FOR DEPTH & CORRECTION FOR FREEBOARD.

If no sheathing fitted amidships = $t_1 = \pm 3.05$ ins. (Arts. 6 and 57 p. 1)
If sheathing is fitted amidships = $(t - t_1) = \mp$ ins. (Arts. 6 and 57 p. 2)
* Note: Use the upper sign in correction for depth and the lower sign in correction for freeboard.

DEPTH TO USE IN FREEBOARD TABLE.

Depth moulded 42 ft. 6.72 ins.
Thickness of Stringer Plate44 "
Thickness of Wood Deck Amidships 42 - 7.16 "
Correction for partial wood deck ± 3.05 "
Depth to use in Freeboard Tables 42 ft. 10.21 ins. = $D_1 = 42.85$ ft.

Deck composition
pantry
and
scuttry.

SUPERSTRUCTURES. Combined B. & F.

HEIGHT (Arts. 46-48)

Standard Height = $(0.018 L + 1.2)$ ft. = 7.5 ft.

	Complete Superstructure	Forecastle	Bridge	Poop or R.Q.D.
Actual	--	Over 8' = 1.00	Over 9' = 1.00	--
Standard	--	7.5	7.5	--

CLOSING APPLIANCES (Arts. 50 and 54)

	Forecastle	Bridge	Poop or Raised Quarter Deck
		Forward End.	After End.
Means of Closing openings in bulkhead	--	--	Hinged Wood Door
Corresponding Class			II

EFFECTIVE LENGTH (Arts. 55 and 56)

	Mean Length	Coef. Art. 56	Height Coef.	Products.
Forecastle closed part				
" open part				
Bridge closed part	479.0	1	1	479
" open part ford.				
" " aft.				
Poop closed part				
" open part				

Total Effective Length = 479

Total Effective Length = $r = .86$
Length of VesselCorresponding Coef. in Table (Art. 49) = $e = .594$ interpolated.

Reduction for Complete Superstructure 39.00 ins.

Product 23.16 ins.

Correction for Superstructures 23.16 ins.

EFFECTIVE LENGTH (Shelter Deck Vessels Arts. 87-92)

 $l + \frac{1}{2}(1-p)(L-l) =$ ft.
(* See Art. 90)

CORRECTION FOR PROPORTIONS L/D (Art. 58)

When D_1 is less than 35 ft. = $\frac{D_1 + 16}{300} (1 - e/2) (L - 12 D_1)$
" " greater than 35 ft. = $0.17 (1 - e/2) (L - 12 D_1)$
[Note $e = 1.0$ if more than 6/10 covered] = $.17 \times .50 \times 45.80 = 3.89$ ins.

CORRECTION FOR ROUND OF BEAM (Art. 59)

Standard Round of Beam = $\frac{\text{Length of Beam in ins.}}{50} = 17.76$ ins.Correction = $\frac{1}{4} (\text{Standard Round of Beam} - \text{Actual Round of Beam})$
= $\frac{1}{4} (17.76 - 4) = 3.44$ ins.

CORRECTION FOR FREEING PORTS

(in vessels less than 15 ft. Depth Art. 64)

Length of bulwark in feet each side ft.
Area of Freeing ports each side sq. ft.
Area of Freeing ports required by Table sq. ft.
Correction $1.2 (r - 0.5) D_1 = +$ ins.

CORRECTION FOR ACCESS TO CREW'S QUARTERS (Arts. 65-67)

Are Crew berthed in Bridge House or Forecastle?
Height and breadth of gangway
Correction = $.012 (80 - l) D_1$ or $1.2 (r - 0.5) D_1$
..... = + -

SUMMARY.

Freeboard by Tables	137.46	ins.
	+	-
Correction for Sheer		.60
" " Partial Wood Deck		3.05
" " Superstructures		23.16
" " Proportions L/D	3.89	
" " Round of Beam	3.44	
" " Freeing Ports		
" " Access to Crew's Quarters		
Totals	7.33	26.87
Net Correction	19.54	
Geometric Freeboard	117.92	ins.
Corresponding Geometric Draught (mld.)	33.02	ft.
Moulded Draught limited by $\left\{ \begin{array}{l} \text{form - design} \\ \text{transverse strength} \\ \text{longitudinal strength} \\ \text{position of side scuttles} \end{array} \right\}$ to	28.36	ft.
Corresponding Freeboard (Summer)	170.8	ins.

Winter Freeboard (Art. 22) = $\frac{1}{4} (D_1 - 10) + r/45 \times (59 - D_1)$
= + ins.

Tropical Freeboard (Art. 24) do. do. = - ins.

Winter North Atlantic Fbd. (Art. 23) Vessels 330 ft. and below.

Ratio of effective length of superstructures to length of vessel
Additional Freeboard + ins.

Fresh Water Freeboard (Art. 27)

 $\frac{1}{4}$ per foot of Summer Draught = $\frac{12/00}{40 \times 78.4} = - 7.04$ ins.

FREEBOARD TO BE ASSIGNED.

Vertical distance from upper edge of horizontal line indicating the freeboard deck to the centre of the disc. (Summer Line) 170.8 ins.
Fresh Water Load Line above centre of disc. 7.0 ins.
Tropical Load Line above " " " ins.
Winter Load Line below " " " ins.
Winter N.A. Load Line below " " " ins.
Vertical distance from the point of intersection of the extended line of the upper surface of ~~steel~~ ^{upper} str. of the deck at mid length of the vessel with the outside of shell plating to the upper edge of the horizontal line indicating the freeboard deck 0.00 ins.

Are the Engine and Boiler openings covered by a Bridge, Poop, Raised Quarter Deck or enclosed by a strong steel deck house? Yes

If openings are not so protected give thickness of plating and scantlings and spacing of stiffeners of Casings --

Are suitable means provided for closing all openings in them in bad weather? --

State the vertical distance from base line at top of keel to lower edge of lowest side scuttle About 32'-0".

State if there are any cargo ports or scuppers through sides of vessel below upper deck Yes

State any special features in the construction of the vessel All bulkheads extend W.T. to Upper Deck.

Sister vessels similar to "ASAMA MARU" and "TATSUTA MARU".

Fee, Yen; Depth of Keel ins.; Draught (btm. keel) ft. ins.



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DETAILS OF CONSTRUCTION OF WEATHER DECK HATCHWAYS.

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Length and Breadth	Bridge Deck 15'9"x16'0"					
Height above deck and thickness of side and end coaming	33 x .44	Hatches Trunked from				
Shifting Beams { Number and Material Scantlings	3 steel 12 x .32 3 1/2"x3"x.42	Promenade Deck.				
*Fore and Afters { Number and Material Scantlings	None					
Thickness of hatch	3"					

Remarks depth should be stated from the underside of hatches.

* When the fore and afters are of wood the

LONGITUDINAL MODULUS.

See Separate Calculation Sheets.

Section at

BELOW ASSUMED AXIS.					ABOVE ASSUMED AXIS.					
Item	Scantlings	Area	Lever	Moment	Item	Scantlings	Area	Lever	Moment	Mt. of Inertia
Flat Keel					Top Deck Str.					
"					" " Plating					
Centre Girder					" " "					
C.G. brm. ang.					" " "					
C.G. top angles					" " Str. Ang.					
T.T. Cr. Strake					2nd Deck Str.					
T.T. plating					" " Plating					
" "					" " "					
" "					" " "					
" "					" " Str. Ang.					
" "					" " "					
Margin Pl.					3rd Deck Str.					
" "					" " Plating					
" Angle					" " "					
Shell Strake A					" " "					
" " B					" " Str. Ang.					
" " C					Sheerstrake					
" " D					Strake below					
" " E					Shell Strake					
" " F					" "					
" " G					" "					
Totals below assumed axis					Totals above assumed axis					
" above assumed axis					Neutral Axis above below assumed axis (x) =					
Sum or Difference					Correction = (Total Area x x ² x 2)	= -				