

DISCLOSED SECTION

LLOYD'S REGISTER OF SHIPPING.

(CLASSIFICATION SOCIETY RECOGNISED BY THE JAPANESE GOVERNMENT)

SURVEY FOR FREEBOARD.

Ship's Name	Port of Registry	Official No.	No. in R.B.	Gross Tonnage	Tonnage under Fbd. Deck = V	Date of Launch	Date when Built	Report Number							
"BRISBANE MARU"	Osaka	--	--	About 5300	3620.1	28th Feb. 1930	--	68							
Owners	Builders			Yard No.		Port of Survey									
Osaka Shosen Kab. Kaisha.	Yokohama Dock Co.			175		Yokohama.									
Type of vessel	Particulars of Classification		Position of Freeboard Deck		Date of Survey										
Complete Superstructure	*100 A. 1. With Freeboard.		2nd Deck.		While Building.										
					Name of Surveyor										
					A. McGlashan and H. J. Cox.										

PRINCIPAL DIMENSIONS.

Length between perpendiculars	380.0 ft.	Breadth Moulded = B _o	54.5 ft.	Depth Moulded to Fbd. deck = D _o	26.75 ft.
Length on Load Line	380.0 ft.	Thickness of Side plating in ins. x $\frac{3}{12}$ *	.56 + .14 ft.	Round of Beam	+ 1.00 ft.
		* (2/12 if plating is jogged)		Depth from base line to top of inner bottom plating or ordinary floors	27.75 ft.
Length for Freeboard = L	380.0 ft.	Breadth for Freeboard = B	54.64 ft.	Depth for Tonnage Coef. (Art. 39) = D	3.54 ft.
					24.21 ft.

CORRECTION TO TONNAGE (Art. 39)

Tonnage between top of ceiling on double bottom or ordinary floors as fitted and standard level of top of ceiling (v) = -.50 tons.

DEPTH OF DOUBLE BOTTOM (Art. 39)

Depth of Actual Double Bottom (including plating) or Ordinary Floors	42.5 ins.
Depth of Standard Double Bottom (including plating) or Ordinary Floors	42.5 ins.
Difference	0
x $\frac{1}{12}$ =	0 = d.

SHEER (Arts. 39 and 60-63)

Ordinate	Height of Sheer in inches.	S.M.	Products
1	35.38	1	35.38
2	14.88	4	59.52
3	3.63	2	7.26
4	0	4	0
5	7.75	2	15.50
6	29.63	4	118.52
7	62.75	1	62.75

Sum of Products = 298.93

Mean Height of Sheer = $S = \frac{\text{Sum of Products}}{18} = 16.61$ ins.

Standard Mean Height = $S_o = \frac{1}{3}(L/10 + 10) = 16.00$ ins.

Difference $.61 \times \frac{1}{12} = .05$ ft. = d₁

Correction (Arts. 60-63) = $\frac{3}{4}(1 - e)(S_o - S) =$ ins.

FRAMING (Art. 39)

Between Frames	Length in ft.	Depth of Frame in ins.	Thickness of Sparring in inches	Total depth in inches	Products ft. x inches
0 - 18	40.75	8	2	10	407.5
18 - 65	117.50	9	2	11	1292.5
65 - 83	45.00	9	-	9	405.0
83 - F.P.	176.75	9	2	11	1944.25

Sum of Products = 4049.25

Sum of Products = Actual Mean Depth of framing $\frac{\text{Sum of Products}}{\text{Length of Ship}} =$ ins. 10.66

Standard " " " " 6 + 2 ins. 8

Difference 2.66 x $\frac{2}{12} = .44$ = 2b

COEFFICIENT OF FINENESS (Art. 39 or 43)

$$\frac{100(V + v)}{L(B - 2b)(D + d + d_1) + n}$$

$$= \frac{361960}{380 \times 54.2 \times 24.26} + = .72$$

$$\text{or } \frac{35 \times \Delta}{L \times B_o \times d_o} + 0.04$$

$$= + 0.04 =$$

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

SEE PLANS.

2 $\frac{1}{2}$ Ceiling on battens throughout Ex. in Machinery Space.
Standard depth of Cel. dble. bottom = 45.00
Actual " " " " " = 45.50

$$\frac{380 \times 46.2 \times 67 \times .04}{100} = + 4.7 \text{ tons.}$$

No Ceiling in Engine Space.
45 x 46.2 x .25 = -5.2

$$\frac{100}{\text{Nett Correction}} = - .5 \text{ Tons.}$$

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.

006512 - 006522 - 0016 1/2

WOOD DECK (Arts. 5 and 6)			
	Mean Length in ft.	Thickness in ins.	Products
Forecastle			
Bridge	Complete Superstructure.		
Poop or R.Q.D.			
Open Deck, ford.	3.5	.40	3.10
" " aft.			
Total length = l =	Sum of Products =		
Sum of Products = t =	ins. ;	Sum of Products = t ₁ =	3.10 ins.

CORRECTION FOR DEPTH & CORRECTION FOR FREEBOARD.
 If no sheathing fitted amidships = t₁ = \pm **3.10** ins. (Arts. 6 and 57 p. 1)
 If sheathing is fitted amidships = (t - t₁) = \mp **3.10** 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	26	ft. 9	ins.
Thickness of Stringer Plate		.40	ins.
Thickness of Wood Deck Amidships			
Correction for partial wood deck	± 26	9.40	
Depth to use in Freeboard Tables	27	ft. 0.50	ins. = D ₁ = 27.04 ft.

SUPERSTRUCTURES.				
HEIGHT (Arts. 46-48)				
Standard Height = (0.018 L + 1.2) ft. = 7.5 ft.				
Corrected for mean wood deck and stringer on both decks.	Actual	Complete Superstructure	Forecastle	Bridge
	Standard			
	7.33	.98		
	7.50			
CLOSING APPLIANCES (Arts. 50 and 54)				
	Forecastle	Bridge	Poop or Raised Quarter Deck	
	Forward End.	After End.		
Means of Closing openings in bulkhead				
Corresponding Class				

EFFECTIVE LENGTH (Arts. 55 and 56)				
	Mean Length	Coef. Art. 56	Height Coef.	Products.
Forecastle closed part				
" open part				
Bridge closed part				
" open part ford.				
" " aft.				
Poop closed part				
" open part				

Total Effective Length =
 $\frac{\text{Total Effective Length}}{\text{Length of Vessel}} = r =$
 Corresponding Coef. in Table (Art. 49) = e = **38.43x.98 = 37.66** ins.
 Reduction for Complete Superstructure Product = **37.66** ins.
 Correction for Superstructures = **-37.66** 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 D₁ 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] = **43.04 x .55.52 = 43.98** 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? **Yes**
 State the vertical distance from base line at top of keel to lower edge of lowest side scuttle **Above freeboard deck.**
 State if there are any cargo ports or scuppers through sides of vessel below upper deck **All above freeboard deck.**
 State any special features in the construction of the vessel **W.T. Bulkheads extend to freeboard deck only.**
Cargo Hatch shifting beams as for Complete Superstructure vessel.
 Sister vessels **M.V. "SYDNEY MARU" AND M.V. "MELBOURNE MARU".**
 Fee, Yen. : Depth of Keel : ins. ; Draught (btm. keel) : ft. : ins.

CORRECTION FOR ROUND OF BEAM (Art. 59)
 Standard Round of Beam = $\frac{\text{Length of Beam in ins.}}{50} = \frac{654}{50} = 13.08$ ins.
 Correction = $\frac{1}{4} (\text{Standard Round of Beam} - \text{Actual Round of Beam})$
 = $\frac{1}{4} (13.08 - 12) = 1.27$ 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) D₁ = + : 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 = -0.12 (80 - l) D₁ or 1.2 (r - 0.5) D₁ :
 = + : ins.

SUMMARY.			
Freeboard by Tables	68.58	ins.	
Correction for Sheer			
" " Partial Wood Deck		3.10	
" " Superstructures		37.66	
" " Proportions L/D	3.98		
" " Round of Beam	.27		
" " Freeing Ports			
" " Access to Crew's Quarters			
Totals	4.25	40.76	
Net Correction	36.51		
Geometric Freeboard	32.07	ins.	
Corresponding Geometric Draught (mld.)	24.11	ft.	
Moulded Draught limited by {form transverse strength longitudinal strength position of side scuttles}		24.11	ft.
Corresponding Freeboard (Summer)	32.1	ins.	

Winter Freeboard (Art. 22) = $\frac{1}{4} (D_1 - 10) + \frac{1}{4} 45 \times (59 - D_1)$
 = **4.97** ins.

Tropical Freeboard (Art. 24) do. do. = **-4.97** 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 = **6.02** = - 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) **32.1** ins.
 Fresh Water Load Line above centre of disc. **6.0** ins.
 Tropical Load Line above " " " **5.0** ins.
 Winter Load Line below " " " **5.0** ins.
 Winter N.A. Load Line below " " " **--** ins.
 Vertical distance from the point of intersection of the extended line of the upper surface of **Stringer plate** of the **second** 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 **0.0** ins.

DETAILS OF CONSTRUCTION OF WEATHER DECK HATCHWAYS.

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Length and Breadth	29'3" x 18'0"	35'0" x 20'0"	32'6" x 20'0"	30'0" x 20'0"		
Height above deck and thickness of side and end coaming	24 " x .44	24" x .44	24" x .44	24" x .44		
Shifting Beams	Number and Material Six 14 1/2 x .34 4 x 3 x .44	Six 14 1/2" x .34 4 x 3 x .44	Five 15" x .34 4 x 3 x .44	Five 14 1/2 x .34 4 x 3 x .44		
*Fore and Afters	Number and Material Scantlings	— NONE —				
Thickness of hatches	3" Wood at all hatches.					
Remarks	Hatch shifting beams of Complete Superstructure type Scantlings.					
* When the fore and afters are of wood the depth should be stated from the underside of hatches.						

LONGITUDINAL MODULUS.
 Height of Assumed Axis above base = **13.7'** above top of keel. Section at **Cargo hatch about frame 100.**

BELOW ASSUMED AXIS.						ABOVE ASSUMED AXIS.					
Item	Scantlings	Area	Lever	Moment	Mt. of Inertia	Item	Scantlings	Area	Lever	Moment	Mt. of Inertia
Flat Keel	50x.74x(1/2)	18.5	13.7	253	3470	Top Deck Str.	57 x .46	26.2	20.7	542	174
" "						" " "					
Centre Girder	42x.54x(1/2)	11.3	12.0	136	1630	" " Plating	62 x .42	26.0	21.0	546	11470
C.G. btm. ang.	4x4x.58(1/2)	2.2	13.6	30	410	" " "	61 x .42	25.6	21.3	545	11610
C.G. top angles	3 1/2 x 3 1/2 x 52(1/2)	1.7	10.3	18	190	" " "	36 x .42	15.1	21.4	323	6910
T.T. Cr. Strake	52x.50x(1/2)	13.0	10.2	133	1360	" " Str. Ang.	6 x 6 x .56	6.4	20.7	132	2730
T.T. plating	66 x .42					2nd Deck Str.	40 x .40	16.0	13.2	211	2790
" "	65 x .42					" " Plating	65 x .36	23.4	13.5	316	4270
" "	66 x .42	115.5	10.2	1178	12020	" " "	65 x .36	23.4	13.7	321	4400
" "	68 x .42					" " "	40 x .36	14.4	13.9	200	2780
" "	10 x .42					" " Str. Ang.					
Margin Plate	36 x .52	18.7	11.6	217	2520	3rd Deck Str.	40 x .34	13.6	4.7	64	300
Top Angle	5 x 5 x .52	4.9	10.2	50	510	" " Plating	65 x .30	19.5	5.0	98	490
" Angle	3 1/2 x 3 1/2 x 52	3.4	13.0	44	570	" " "	65 x .30	19.5	5.2	101	530
Shell Strake A	75 x .56	42.0	13.7	575	7880	" " "	40 x .30	12.0	5.4	65	350
" " B	75 x .56	42.0	13.6	571	7770	" " Str. Ang.					
" " C	74 1/2 x .56	41.9	13.4	561	7520	Sheerstrake	50 x .66	33.0	19.3	637	12300
" " D	74 1/2 x .56	41.7	13.2	550	7260	Strake below	62 x .62	38.4	15.2	584	8880
" " E	64 1/2 x .56	36.1	10.9	393	4280	Shell Strake	72 x .56	40.3	10.0	403	4030
" " F	62 1/2 x .56	34.9	6.3	220	1390	" "	71 1/2 x .56	40.0	4.4	176	770
" " G	72 x .56	40.3	1.3	52	70	" "					
Totals below assumed axis		468.1		4981	58850	Totals above assumed axis		392.8		5264	85830
" above assumed axis		392.8		5264	85830	Neutral Axis above assumed axis (x) = .33					
Sum or Difference		860.9	.33 up	283	144680	Correction = (Total Area x x ² x 2) = 93 x 2 = 186 say 190.					

Moment of Inertia about assumed axis **289360**
 190
 289170
DRAUGHT PERMITTED BY LONGITUDINAL STRENGTH (Arts. 81-86) =
 MODULUS OF SECTION = **14300**
 Actual Modulus **14300** = **25.35**
 f. B_g **10.35 x 54.5**

TRANSVERSE MODULUS.
 Minimum Side Plating (Art. 77) $\frac{0.105 \times 380 + 17}{100} = .57$; Standard Frame Spacing (Art. 78) = $.025 \times 380 + 17 = 26.5$ ins.
 Actual Side Plating = **.56** ; Actual Frame Spacing = **30** ins.
 If actual frame spacing exceeds the standard $\sqrt{\frac{\text{Actual frame spacing}}{\text{Standard frame spacing}}} t = \sqrt{\frac{30}{26.5}} \times .57 = .61$
 Moulded Geometric Draught (d) = **24.04** H = **13.16** f₁ = **17.32**
 t = **5.09** K = **21.00** f₂ = **3.30**
 d - t = **18.95** f₁ + f₂ = **20.62**
 Standard I/y = $\frac{s(d-t)(f_1 + f_2)}{1000} = \frac{30 \times 18.95 \times 20.62}{1000} = 11.72$ ins.
 Frame in ship **9x3 1/2 x .42 B.A.** at **30"** spacing I/y = **13.65**
 Revised B.S. **13.65x1000**
DRAUGHT PERMITTED BY TRANSVERSE STRENGTH = $\frac{I/y \times 1000}{s(f_1 + f_2) + t} = \frac{13.65 \times 1000}{30 \times 20.62 + 5.09} = 27.16$ ft.

