

DISCLOSED

SECTION 1016

MON. 28 JAN. 1924

LLOYD'S REGISTER OF SHIPPING.

(CLASSIFICATION SOCIETY RECOGNISED BY THE JAPANESE GOVERNMENT)

SURVEY FOR FREEBOARD.

Ship's Name Bordeaux Maru	Port of Registry Kobe	Official No. 27895	No. in R.B. 38.183	Gross Tonnage 6566.53	Tonnage under Fbd. Deck = V 6157.33	Date of Launch 1923 31st. July	Date when Built 1923	Report Number 19
Owners Kawasaki Dockyard Co. Ltd.		Builders Kawasaki Dockyard Co., Ltd.		Yard No. 483		Port of Survey Kobe		
Type of vessel Awning Deck		Particulars of Classification 100 Al. Awning Deck with freeboard, and Teishinsho Rule 1st. Class		Position of Freeboard Deck Awning Deck		Date of Survey December 1923		
						Name of Surveyor A. Watt		

PRINCIPAL DIMENSIONS.

Length between perpendiculars	405 ft.	Breadth Moulded = B _o	53.00 ft.	Depth Moulded to Fbd. deck = D _o	37.00 ft.
Length on Load Line	404.64 ft.	Thickness of Side plating in ins. x 3/12"	+ .16 ft.	Round of Beam	+ 1.10 ft.
		* (2/12 if plating is joggled)		Depth from base line to top of inner bottom plating or ordinary floors	38.10 ft.
Length for Freeboard = L	404.64 ft.	Breadth for Freeboard = B	53.16 ft.	Depth for Tonnage Coef. (Art. 39) = D	34.48 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) = $\frac{405 \times .04 \times 30}{100} = .5$ tons.

DEPTH OF DOUBLE BOTTOM (Art. 39)

Depth of Actual Double Bottom (including plating) or Ordinary Floors	43.5 ins.
Depth of Standard Double Bottom (including plating) or Ordinary Floors	44.52 ins.
Difference	- 1.02
x 1/12 =	- .09 = d.

SHEER (Arts. 39 and 60-63)

Ordinate	Height of Sheer in inches.	S.M.	Products
1	64.38	1	64.38
2	26.50	4	106.00
3	5.75	2	11.50
4	0.	4	0
5	9.56	2	19.12
6	38.37	4	153.48
7	95.13	1	95.13

Sum of Products = 449.61

Mean Height of Sheer = $S = \frac{\text{Sum of Products}}{18} = 24.98$ ins.Standard Mean Height = $S_o = \frac{1}{3}(L/10 + 10) = 16.83$ ins.Difference = $8.15 \times 1/12 = .68$ ft. = d.Correction (Arts. 60-63) = $\frac{1}{4}(1-e)(S_o - S) = \frac{1}{4}(1-.98)(8.15) = 5.99$ 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
Molds	312.0	9.5	2.0	11.5	3590
Machyspace	52.0	10.0	-	10.0	520
Fore Pk.	22.21	7.0	2.0	9.0	200
Aft. Pk.	18.79	6.0	2.0	8.0	150

Sum of Products = 4460

Sum of Products = Actual Mean Depth of framing = 11.02 ins.

Length of Ship

Standard " " " " 8.50 ins.

Difference = $2.52 \times 2/12 = .42 = 2b$

COEFFICIENT OF FINENESS (Art. 39 or 43)

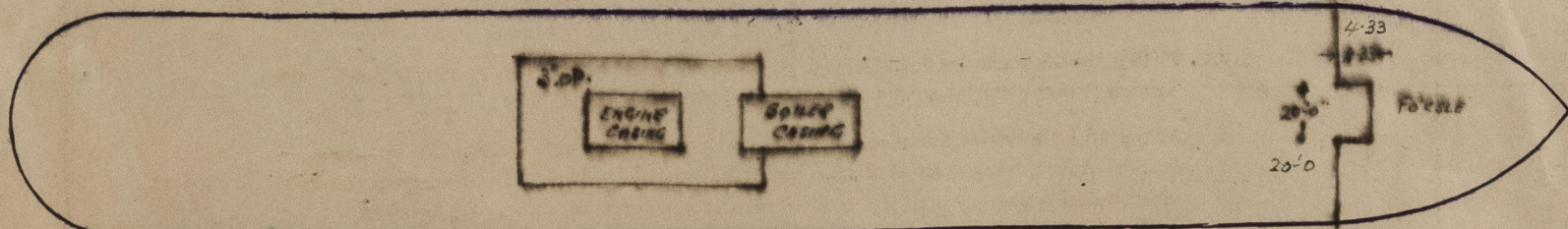
$$\frac{100(V + v)}{L(B - 2b)(D + d + d_o) + n}$$

$$= \frac{100(6157.33 - 5)}{404.64(53.16 - .42)(34.48 - .09 + .68)} + 0 = .82$$

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

$$= \frac{35 \times 6157.33}{404.64 \times 53.16 \times 34.48} + 0.04 = .82$$

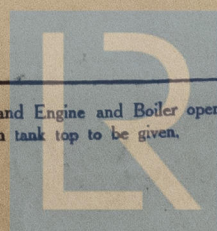
Sketch showing arrangement and height of double bottom or ordinary floors and of superstructures (unless complete plans are submitted).



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.

Tank top:- 2 1/2" ceiling on 2" Cross Battens throughout.

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Lloyd's Register
Foundation

WOOD DECK (Arts. 5 and 6)			
	Mean Length in ft.	Thickness in ins.	Products
Forecastle	30.88	3.5	93.88
Bridge			
Poop or R.Q.D.			
Open Deck, fwd.			
" " aft.			
Total length = l =	30.88		93.88
Sum of Products =			93.88
Sum of Products = t =		ins.	23

CORRECTION FOR DEPTH & CORRECTION FOR FREEBOARD.			
If no sheathing fitted amidships = t ₁ = \pm ins. (Arts. 6 and 57 p. 1)			
If sheathing is fitted amidships = (t - t ₁) = \pm 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	37	ft.	0.09 ins.
Thickness of Stringer Plate			54
Thickness of Wood Deck Amidships			
Correction for partial wood deck	\pm		23
Depth to use in Freeboard Tables	37	ft.	0.77 ins. = D ₁ = 37.06 ft.

SUPERSTRUCTURES.				
HEIGHT (Arts. 46-48)				
Standard Height = (0.018 L + 1.2) ft. = 7.50 ft.				
	Complete Superstructure	Forecastle	Bridge	Poop or R.Q.D.
Actual	5.77			
Standard	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	Steel doors			
Corresponding Class				

EFFECTIVE LENGTH (Arts. 55 and 56)				
	Mean Length	Coef. Art. 56	Height Coef.	Products
Forecastle closed part	28.60	1.00	.77	22.02
" open part	2.28	.75	.77	1.32
Bridge closed part				
" open part fwd.				
" " aft.				
Poop closed part				
" open part				
Total Effective Length				23.34
Length of Vessel				16.34
Corresponding Coef. in Table (Art. 49)				.02
Reduction for Complete Superstructure				32.00
Product				.78
Correction for Superstructures				.78

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 = J.O if more than 6/10 covered] = 17x.99(404.64-444.72) = 6.73	

CORRECTION FOR ROUND OF BEAM (Art. 59)	
Standard Round of Beam = Length of Beam in ins. = 12.48	
Correction = $\frac{1}{2}(\text{Standard Round of Beam} - \text{Actual Round of Beam})$	
= $\frac{1}{2}(12.48 - 13.185) = -0.19$ ins.	

CORRECTION FOR FREEING PORTS (in vessels less than 15 ft. Depth Art. 64)	
Length of bulwark in feet each side	
Area of Freeing ports each side	
Area of Freeing ports required by Table	
Correction 1.2 (r - 0.5) D ₁ = +	

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) D ₁ or 1.2 (r - 0.5) D ₁	
= +	

SUMMARY.	
Freeboard by Tables	120.08 ins.
Awning Dk. str. plate doubling	44
Correction for Sheer	5.99
" " Partial Wood Deck	.23
" " Superstructures	.78
" " Proportions L/D	6.73
" " Round of Beam	.19
" " Freeing Ports	
" " Access to Crew's Quarters	
Totals	44 13.92
Net Correction	13.48
Geometric Freeboard	106.6 ins.
Corresponding Geometric Draught (mld.)	28.21 ft.
Moulded Draught limited by $\left\{ \begin{array}{l} \text{form} \\ \text{transverse strength} \\ \text{longitudinal strength} \\ \text{position of side scuttles} \end{array} \right\}$ to	28.21 ft.
Corresponding Freeboard (Summer)	106.6 ins.

Winter Freeboard (Art. 22) = $\frac{1}{2}(D_1 - 10) + \frac{1}{15} \times (50 - D_1)$	
= (37.09 - 10) + 0.4/45(59 - 37.09) = + 6.8 ins.	
Tropical Freeboard (Art. 24) do, do. = - 6.8 ins.	

Winter North Atlantic Fbd. (Art. 23) Vessels 330 ft. and below.	
Ratio of effective length of superstructures to length of vessel	
Additional Freeboard = +	

Fresh Water Freeboard (Art. 27)	
$\frac{1}{4}$ per foot of Summer Draught = $\frac{1}{4} \times 28.21 = 7.1$ 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) 106.6 ins.	
Fresh Water Load Line above centre of disc. 7.1 ins.	
Tropical Load Line above " " " 6.8 ins.	
Winter Load Line below " " " 6.8 ins.	
Winter N.A. Load Line below " " " ins.	
Vertical distance from the point of intersection of the extended line of the upper surface of the awning 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? **Partly**

If openings are not so protected give thickness of plating and scantlings and spacing of stiffeners of Casings **.30, .40 coaming stiffeners $3\frac{1}{2} \times 3 \times .40 @ 24"$ spacing**

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 **38'-2 $\frac{1}{2}$ " (frame 15-16)**

State if there are any cargo ports or scuppers through sides of vessel below upper deck **No.**

State any special features in the construction of the vessel

Sister vessels **Belfast Maru, Rhine Maru and Montreal Maru (Kawasaki Dockyard Nos. 480, 481 & 482.)**

Fee, Yen **1607** Depth of Keel **23** ins. Draught (btm. keel) **28** ft. **5** ins.

See P.B. App.

DETAILS OF CONSTRUCTION OF WEATHER DECK HATCHWAYS.

	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6
Length and Breadth	26'0"x18'-0"	30'4"x18'0"	26'0" x18'0"	21'8"x18'0"		
Height above deck and thickness of side and end coaming	30 x .44	30 x .44	30 x .44	30 x .44	same as	same as
Shifting Beams	5 steel PL 15 x .36 A 4x3x.44	5 steel PL 16 $\frac{1}{2}$ x .36 A 4x3x.44	5 steel PL 15 x .36 A 4x3x.44	4 steel PL 15 x .36 A 4x3x.44	No. 2	No. 1
* Fore and Afters	Number and Material Scantlings				Hatch	Hatch
Thickness of hatches	3"	3"	3"	3"		
Remarks	* When the fore and afters are of wood the depth should be stated from the underside of hatches.					

LONGITUDINAL MODULUS.

BELOW ASSUMED AXIS.						ABOVE ASSUMED AXIS.					
Item	Scantlings	Area	Lever	Moment	Mt. of Inertia	Item	Scantlings	Area	Lever	Moment	Mt. of Inertia
Flat Keel						Top Deck Str.					
" "						" " "					
Centre Girder						" " Plating					
C.G. btm. ang.						" " "					
C.G. top angles						" " "					
T.T. Cr. Strake						" " Str. Ang.					
T.T. plating						2nd Deck Str.					
" "						" " Plating					
" "						" " "					
" "						" " Str. Ang.					
Margin Plate						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 assumed axis (x) =					
Sum or Difference						Correction = (Total Area x x ² x 2) =					
						Moment of Inertia about Neutral Axis					
						Distance from Neutral Axis to top of Strength deck beam at side =					
						Keel					
						MODULUS OF SECTION =					
						Actual Modulus =					
						f. B _o					

DRAUGHT PERMITTED BY LONGITUDINAL STRENGTH (Arts. 81-86) =

TRANSVERSE MODULUS.

Minimum Side Plating (Art. 77) $\frac{0.105 \times}{100} + 17 =$; Standard Frame Spacing (Art. 78) = $.025 \times + 17 =$

Actual Side Plating =; Actual Frame Spacing =

If actual frame spacing exceeds the standard $\sqrt{\frac{\text{Actual frame spacing}}{\text{Standard frame spacing}}}$ t =

Moulded Geometric Draught (d) = H = f₁ =

t = K = f₂ =

d - t = f₁ + f₂ =

Standard I/y = $\frac{s(d-t)(f_1 + f_2)}{1000} =$

Frame in ship = at spacing, I/y =

DRAUGHT PERMITTED BY TRANSVERSE STRENGTH = $\frac{1/y \times 1000}{s(f_1 + f_2)} + t =$

