Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

M.S.
Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having **Complete Superstructure with a tonnage opening.**

(Type of Superstructures.)

Port of Survey **Kobe**

Date of Survey **5 Oct 1934**

Name of Surveyor *John Parker*

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
KIYOSUMI MARU	Tokio Japan.		6992	1934

Moulded Dimensions: Length **450** Breadth **61** Depth ~~40~~ **31·06**

Particulars of Classification **+100 A1 with freeb'd.**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **14555** tons

Coefficient of fineness for use with Tables **·705 ·703**

Depth for Freeboard (D) **·06**

Moulded depth ... ... **31·00**

Stringer plate ... ... ~~45~~ **·04**

Sheathing on exposed deck **none** ✓

$T\left(\dfrac{L-S}{L}\right) =$

Depth for Freeboard (D) = **31·04 ·10**

Depth correction

(a) Where D is greater than Table depth

$(D - \text{Table depth})\ R =$

$\left(\dfrac{31·04 - 30·00}{10} \text{ or } 1·10\right) \times 3 = + 3·12 \cdot 30$

(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) **61·00**

Standard Round of Beam = $\dfrac{B \times 12}{50} =$ **14·64**

Ship's Round of Beam = **15"**

Difference **·36**

Restricted to ✓

Correction = $\dfrac{\text{Diff}^\circ}{4} \times \left(1 - \dfrac{S_1}{L}\right) = \dfrac{·36}{4} \times ·0048 = $ **Nil.**

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	26·25	26·25	9·0	✓	26·25
„ overhang	·25	·12	✓		·12
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed...					
„ overhang aft ...	·25	·19	✓		·19
„ overhang forward					
F'cle enclosed	419·25	419·25	9·0	✓	419·25
„ overhang ...					
Trunk aft					
„ forward					
Tonnage opening aft ...	4·00	2·09 = ½ diff.			2·09
„ forward					
Total ...	450·00	447·90			447·90

Combined

Standard Height of Superstructure **7·5** ✓

„ „ R.Q.D. ✓

Deduction for complete superstructure **42** ✓

Percentage covered $\dfrac{S}{L}$ **100·00**

„ „ $\dfrac{S_1}{L}$ **99·52**

„ „ $\dfrac{E}{L}$ **99·52**

Percentage from Table, Line A. **99·40**
(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 = **42 × ·9940 = − 41·75** ✓

SHEER CORRECTION.

Actual height of superstructure = 9-0"
Standard „ = 7-6"
1'-6"

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	55·00	1	55·00	+18 60 = 78·00 ✓	78·00	1	78·00 ✓
⅙L from A.P. ...	24·475	4	97·90	23·94"	34·71	4	138·84
²/₆L „ ...	6·05	2	12·10	5·75"	8·58	2	17·16
Amidships ...	−	4	−	0	−	4	−
²/₆L from F.P. ...	12·10	2	24·20	10·50	13·20	2	26·40 ✓
⅙L „ ...	48·95	4	195·80	40·89	53·40	4	213·60
F.P.	110·00	1	110·00	102·00 = 120·00 ✓	120·00	1	120·00 ✓
Total ...	495	✓	495·00	+18			594·00 ✓

$\dfrac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} =$ Excess

$\dfrac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} =$ Excess

$\dfrac{\text{Length of enclosed superstructure forward of amidships}}{L} =$ } C.S.S.

„ „ aft of „ =

Correction = $\dfrac{\text{Difference between sums of products}}{18}\left(·75 - \dfrac{S}{2L}\right) = \dfrac{99}{18}(·75 - ·50) = - 1·37$ ✓

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

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

Ft.

Depth to Freeboard Deck = **31·10**

Summer freeboard = **4·06**

Moulded draught (d) = **27·04**

Deduction for Tropical freeboard and addition for Winter freeboard = $\dfrac{d}{4}$ inches = **6·76** 172 ✓

Addition for Winter North Atlantic Freeboard (if required) =

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 = $\dfrac{\Delta}{40\,T}$ inches

$d/4 = 172$ ✓

TABULAR FREEBOARD corrected for Flush Deck (if required) **87·10** ✓

Correction for coefficient $\dfrac{·703 \ ·705 + ·68}{1·36} = \dfrac{1·385 \ 3}{1·36} =$ **88·70 ·58**

	+	−
	·30	
	3·12	−
Depth Correction		−
Deduction for superstructures ...		41·75
Sheer correction		1·37
Round of Beam correction...	−	
Correction for Thickness of Deck amidships	−	
Other corrections, scantlings, etc. ...	·30	− 39·82
	3·12	43·12 ~~40·00~~

87·B. 7·11·34

− 39·82

Summer Freeboard = ~~48·70~~ = **1238·L**
48·76

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:— **1238**

Tropical Fresh Water Line above Centre of Disc ...	·344	Tropical Fresh Water Freeboard	·894
Fresh Water Line „ „	·172	Fresh Water „	1·066
Tropical Line „ „	·172	Tropical „	1·066
Winter Line below „	·172	Winter „	1·410
~~Winter North Atlantic Line~~ „ „	✓	~~Winter North Atlantic~~ „	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway											
Dimensions of Hatchway											
COAMINGS — Height above Deck ...											
Thickness — Sides ...											
Thickness — Ends ...											
Stiffeners											
Brackets, Stays ...											
HATCH BEAMS — Number											
Spacing											
Scantling and Sketch ...											
Bearing Surface											
FORE AND AFTERS — Number											
Spacing											
Unsupported Lengths ...											
Scantling* and Sketch ...											
Bearing Surface											
HATCH COVERS — Material											
Thickness...											
How fitted											
Bearing Surface											
Spacing of Cleats											
Number of Tarpaulins											

*Are wood fore and afters steel shod at all bearing surfaces ?

Are battens and wedges efficient and in good condition ?

Are tarpaulins in good condition and in accordance with rule requirements ?

Are lashings provided in accordance with rule requirements ?

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes —
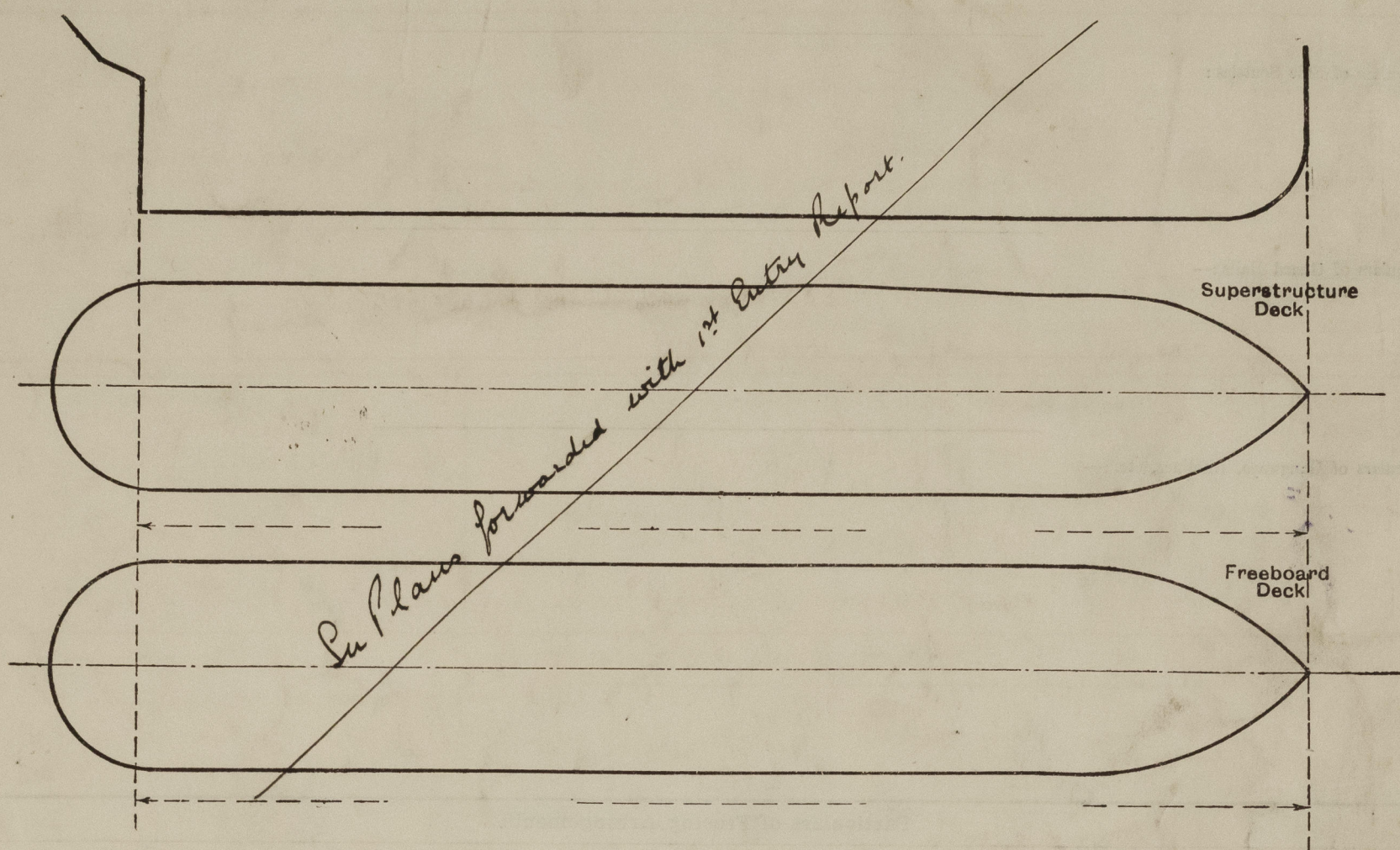
Particulars of Side Scuttles :

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

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						

State position of each freeing port ... ... ⎰ After Well :—
(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 :—

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								
Bridge, Forward Bulkhead								
Forecastle Bulkhead ... ,.. ...								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	Storm boards in rivited channels
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Stormboards in rivited channels.
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
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 shewn on the following sketches :—

Superstructure Deck

Freeboard Deck

See Plans forwarded with 1st Entry Report.

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

Freeboard have been assigned by the Japanese Government ; for particulars see Verification Form herewith.

Builder's name and yard number   Kawasaki Dockyard Co.   n° 583.

Names of sister ships

Owners

Fee £   :   :   Received by me