

Blue Print 11/10/46  
38367

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER~~)

Index No. ....  
(For London Office only.)

38412

Ship's Name <b>"HAIHU"</b> ex "OTTAWA PALMER"	Official Number -	Nationality and Port of Registry Chinese Shanghai	Gross Tonnage 1300 approx.	Date of Build March, 1946 Alterations July, Aug. 1946	Port of Survey <u>Vancouver, B. C.</u> Date of Survey <u>During alterations in July, 1946</u> Surveyor's Signature <u>Aug. R. M. Scott</u> Particulars of Classification <u>*100 A1 with freeboard</u>
Moulded Dimensions: Length <u>210.33 ft.</u> Breadth <u>36.5 ft.</u> Depth <u>21.66 ft.</u> Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>2970</u> tons (18'-5") (T.P.I. - 15.9) Coefficient of fineness for use with Tables _____					

<b>Depth for Freeboard (D).</b> Moulded depth ... .. <u>21.66</u> Stringer plate 14 lbs ... (.34") ... <u>.03</u> $2\frac{1}{2}"$ Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = \frac{2.5}{12} \times .8693 = .18$ Depth for Freeboard (D) = <u>21.88</u>	<b>Depth correction.</b> (a) Where D is greater than Table depth (D-Table depth) R= $(21.88-14.02) \times 1.618 = +12.72$ 7.86 (b) Where D is less than Table depth (if allowed) (Table depth-D) R= _____ If restricted by superstructures _____	<b>Round of Beam correction.</b> Moulded Breadth (B) <u>36'-6"</u> Standard Round of Beam = $\frac{B \times 12}{50} = 8.76$ Ship's Round of Beam = <u>12"</u> Difference <u>3.24</u> Restricted to _____ Correction = $\frac{\text{Diff}^\circ}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{3.24}{4} \times .9257 = .75$
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..					
" overhang ... ..					
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..					
" overhang aft ... ..					
" overhang forward ... ..					
F'cle enclosed <u>for</u> ... ..	<u>27.50</u>	<u>15.63</u>	<u>7.0'</u>	-	<u>15.63</u>
" overhang ... ..	<u>4.0'</u>				
Trunk aft ... ..					
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<u>27.50</u>	<u>15.63</u>			<u>15.63</u>

Standard Height of Superstructure <u>6.0</u>
" " R.Q.D. <u>-</u>
Deduction for complete superstructure <u>27.03</u>
Percentage covered $\frac{S}{L} = 13.07$
" " $\frac{S_1}{L} = 7.43$
" " $\frac{E}{L} =$
Percentage from Table, Line A. <u>3.71</u>
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. <u>-</u>
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) <u>-</u>
Deduction = <u>27.03 - .0371 = -1.00</u>

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate Ins.	Effective Ordinate	S	M	Product
A.P. ... ..	<u>31.03</u>	1		<u>31.03</u>	<u>27.0</u>	<u>27.0</u>	1		<u>27</u>
1/2L from A.P. ... ..	<u>13.81</u>	4		<u>55.24</u>	<u>8.5</u>	<u>8.5</u>	4		<u>34</u>
1/2L " ... ..	<u>3.415</u>	2		<u>6.83</u>	-	-	2		-
Amidships ... ..	-	4		-	-	-	4		-
1/2L from F.P. ... ..	<u>6.83</u>	2		<u>13.66</u>	-	-	2		-
1/2L " ... ..	<u>27.62</u>	4		<u>110.48</u>	<u>17.5</u>	<u>17.5</u>	4		<u>70</u>
F.P. ... ..	<u>62.07</u>	1		<u>62.07</u>	<u>45.0</u>	<u>45.0</u>	1		<u>45</u>
Total ... ..				<u>279.31</u>					<u>176</u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{103.31}{18} \left( .75 - \frac{.0653}{2 \times 165.42} \right) = +3.93$   
If limited on account of midship superstructure. \_\_\_\_\_

Mean actual sheer aft = \_\_\_\_\_  
Mean standard sheer aft = \_\_\_\_\_  
Mean actual sheer forward = \_\_\_\_\_  
Mean standard sheer forward = \_\_\_\_\_  
Length of enclosed superstructure forward of amidships = \_\_\_\_\_  
aft of " = \_\_\_\_\_  
" sheer forward aft of " = \_\_\_\_\_  
 $\frac{97.5}{165.42} = .589$

<b>Deduction for Tropical Freeboard.</b> Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <u>21.91</u> Summer freeboard = <u>5.46</u> Moulded draught (d) = <u>16.45</u> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4.11 = 4"</u> Addition for Winter North Atlantic Freeboard (if required) = <u>6"</u>	<b>Deduction for Fresh Water.</b> Displacement in salt water at summer load water line $\Delta =$ <u>2609</u> Tons per inch immersion at summer load water line $T =$ <u>15.5</u> Deduction = $\frac{\Delta}{40T}$ inches = <u>4.21</u> <u>= 4 1/4</u>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient. $\frac{735 + .68}{1.36} = \frac{1.415}{1.36}$ Depth Correction ... .. <u>12.72</u> Deduction for superstructures ... .. <u>-</u> Sheer correction ... .. <u>3.93</u> Round of Beam correction ... .. <u>-</u> Correction for Thickness of Deck amidships ... .. <u>.36</u> Other corrections, scantlings, etc. ... .. <u>23.53</u> Summer Freeboard = <u>68.50</u>
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### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ... .. <u>8 1/4"</u>	Tropical Fresh Water Freeboard ... .. <u>5'-5 1/2"</u>
Fresh Water Line " " ... .. <u>4 1/4"</u>	Fresh Water " " ... .. <u>5'-1 1/4"</u>
Tropical Line " " ... .. <u>4"</u>	Tropical " " ... .. <u>5'-1 1/2"</u>
Winter Line below " " ... .. <u>4"</u>	Winter " " ... .. <u>5'-9 1/2"</u>
Winter North Atlantic Line " " ... .. <u>6"</u>	Winter North Atlantic " " ... .. <u>5'-11 1/2"</u>



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

This ship ("B" Type Coaster - open shelter deck type) laid up in Vancouver, B.C. after completion in July, 1946 has now been sold by War Assets Corporation to the Chinese Government Supply Agency.

The new Owners desired the ship made a closed shelter deck type and structural alterations to enable her to obtain 30" more draught have been carried out as follows:-

Nos.1 & 2 Holds - 4"x4"x3/8"reverse angles fitted to every 4th frame in Holds (14 frames P. & S.).

Nos.1 & 2 'tween decks - new 6"x3 1/2"x.32" O.A. frames have been fitted between 2nd and upper decks where frames previously extended to upper deck alternately (22 frs.P&S).

Ship's side doors permanently closed, Port and Starboard.

Bulkhead 69 - Tonnage openings permanently closed by plates welded all round and stiffeners fitted in way. 1 - 5" dia. screw down non-return valve, P. & S. in original tonnage well, now removed & opening in shell closed W.T. by an efficient welded steel plate.

Upper deck - tonnage opening hatch removed also wood deck in way. Deck opening plated over with beams under, bracketted to hatch side girder.

Fore end of boiler casing extended to form a wash place.

Steel doors in halves fitted at aft and fore ends of after side house passage, Port and Starboard and af after end of midship deckhouse passageway, Port side, -

Doors operated from each side.

Alterations have also been affected to accommodation to suit new Owners requirements.

Intermediate Displacements and Tons per Inch.

15'-6"	W. L.	=	2417	tons	Displ.	T. P. I.	=	15.3
16'-6"	W. L.	=	2609	"	"	"	=	15.5
17'-6"	W. L.	=	2799	"	"	"	=	15.7

Trade of ship.....International.....

Names of sister ships....."B" Type Coaster.....

Builder's name and yard number.....Burrard Dry Dock Co., Ltd., Yard No. 245 (Conversion by Burrard Dry Dock Co. Ltd.).....

Owners Chinese Government Supply Agency......

Fee \$40.00 1/2



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