

Estimate with increased length

pt. C.11.

Index No. (For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Pop. bridge & main deck*

Port of Survey

(Type of Superstructures.)

Date of Survey *24/5/37*

Ship's Name

Nationality and Port of Official Number Gross Tonnage Date of Build

*Hera*

*British Honduras*

Name of Surveyor

Moulded Dimensions: Length *396.82* Breadth *51* Depth *29.20*  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth. *11290 estimated tons*  
 Coefficient of fineness for use with Tables *.787 estimated*

Particulars of Classification *+100th*  
*Carrying petrol in bulk*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	<i>29.20</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(29.25 - 26.46) 3 = + 8.37</i>		Moulded Breadth (B)	<i>51.00</i>
Keel plate	<i>.05</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>2.79</i>		Standard Round of Beam = $\frac{B \times 12}{50}$	<i>12.24</i>
Weathering on exposed deck	-			Ship's Round of Beam	<i>12.50</i>
$T \left( \frac{L-S}{L} \right) =$				Difference	<i>.26</i>
Depth for Freeboard (D) =	<i>29.25</i>	If restricted by superstructures	-	Restricted to	
				Correction = $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<i>= \frac{.26 \times 55.67}{4} = 1.04</i>

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>102.92</i>	<i>102.92</i>	<i>7.5</i>	-	<i>102.92</i>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<i>28.32</i>	<i>28.32</i>	<i>7.75</i>	-	<i>28.32</i>
" overhang aft					
" overhang forward					
F'cle enclosed <i>equivalent</i>	<i>44.68</i>	<i>44.68</i>	<i>7.75</i>	-	<i>44.68</i>
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<i>175.92</i>	<i>175.92</i>			<i>175.92</i>

Standard Height of Superstructure *7.468*  
 " " R.Q.D. -  
 Deduction for complete superstructure *41.79*  
 Percentage covered  $\frac{S}{L} = 44.33$   
 " "  $\frac{S_1}{L} = 44.33$   
 " "  $\frac{E}{L} = 44.33$   
 Percentage from Table, ~~Line A~~ *Tankers* *35.33*  
 (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 = *41.79 x 35.33 = -14.76*

### SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
P. ...	<i>49.68</i>	1	<i>49.68</i>	<i>48.00</i>	<i>49.68</i>	1	<i>49.68</i>
from A.P. ...	<i>22.11</i>	4	<i>88.44</i>	<i>21.00</i>	<i>22.11</i>	4	<i>88.44</i>
" ...	<i>5.465</i>	2	<i>10.93</i>	<i>8.50</i>	<i>5.465</i>	2	<i>10.93</i>
amidships ...	-	4	-	-	-	4	-
from F.P. ...	<i>10.93</i>	2	<i>21.86</i>	<i>7.50</i>	<i>7.50</i>	2	<i>15.00</i>
" ...	<i>44.215</i>	4	<i>176.86</i>	<i>36.75</i>	<i>36.75</i>	4	<i>147.00</i>
P. ...	<i>99.36</i>	1	<i>99.36</i>	<i>90.00</i>	<i>90.00</i>	1	<i>90.00</i>
Total			<i>447.13</i>				<i>401.05</i>

Mean actual sheer aft = *Excess*  
 Mean standard sheer aft  
 Mean actual sheer forward = *Deficient*  
 Mean standard sheer forward  
 Length of enclosed superstructure forward of amidships = } *Tankers*  
 " " aft of " = }

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{46.08}{18} \left( .75 - \frac{22.17}{52.83} \right) = + 1.35$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

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

Depth to Freeboard Deck = *29.25*  
 Summer freeboard = *5.12*  
 Moulded draught (d) = *24.13*

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = *6.03 = 6"*  
 Addition for Winter North Atlantic Freeboard (if required) = *6.03 + 3.97 = 10"*

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 =  $\frac{\Delta}{40T}$  inches

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.787 + .68}{1.36} = 1.467$

	+	-
Depth Correction	<i>8.37</i>	
Deduction for superstructures		<i>14.76</i>
Sheer correction	<i>1.35</i>	
Round of Beam correction		<i>.04</i>
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
Total	<i>972</i>	<i>1480</i>

Summer Freeboard = *61.54*

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

Tropical Fresh Water Line above Centre of Disc	<i>12"</i>	Tropical Fresh Water Freeboard	<i>4-0 1/2</i>
Fresh Water Line	<i>6"</i>	Fresh Water	<i>4-7 1/2</i>
Tropical Line	<i>6"</i>	Tropical	<i>4-7 1/2</i>
Winter Line below	<i>6"</i>	Winter	<i>5-7 1/2</i>
Winter North Atlantic Line	<i>10"</i>	Winter North Atlantic	<i>5-10 1/2</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.									
Description of Hatchway									
Dimensions of Hatchway									
COAMINGS	Height above Deck								
	Thickness								
	Sides								
	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 fiddle, 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.:—

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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	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
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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