

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamer~~ *Ship*, Tanker
having *Poop, Junk, Forecastle*

Port of Survey *Aruba, D.W.I.*

Date of Survey *October 28-29, 1932.*

Name of Surveyor *E. S. Whitman*

Particulars of Classification *+100.A1.*
Carrying petroleum in Bulk.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<i>T.S.S. "HOOIBERG"</i>	<i>British London</i>	<i>160408</i>	<i>2395</i>	<i>1928-4</i>

Moulded Dimensions: Length *305.0*, Breadth *50.0*, Depth *15.0*,
Moulded displacement at moulded draught = 85 per cent. of moulded depth *4492* tons
Coefficient of fineness for use with Tables *.809*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>15.0</i>	(a) Where D is greater than Table depth (D-Table depth) R = <i>✓</i>	Moulded Breadth (B) <i>50.0</i>
Stringer plate <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>(20.33 - 15.03) 2346</i>	Standard Round of Beam = $\frac{B \times 12}{50} =$ <i>12.0</i>
Sheathing on exposed deck <i>✓</i>	<i>= -12.43"</i>	Ship's Round of Beam = <i>12.0</i>
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Difference <i>NIL</i>
Depth for Freeboard (D) = <i>15.03</i>		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <i>NIL</i>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>66.5</i>	<i>66.50</i>	<i>7.0</i>		<i>66.50</i>
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	<i>22.0</i>		<i>17.5</i>		
" overhang aft					
" overhang forward					
Fore enclosed	<i>30.5</i>	<i>30.50</i>	<i>7.0</i>		<i>30.58</i>
" overhang	<i>4.0</i>	<i>2.00</i>	<i>7.0</i>		<i>2.00</i>
Trunk	<i>204.0</i>	<i>111.36</i>	<i>7.0</i>		<i>111.36</i>
" forward					
Tonnage opening aft <i>P.</i>	<i>44.0</i>		<i>7.0</i>		
" <i>S</i> forward	<i>30.0</i>		<i>7.0</i>		
Total	<i>101.00</i>	<i>210.36</i>			<i>210.36</i>

Standard Height of Superstructure *6.55'*

" " R.Q.D. *✓*

Deduction for complete superstructure *35.67"*

Percentage covered $\frac{S}{L} =$ *33.12%*

" " $\frac{S_1}{L} =$ *68.98%*

" " $\frac{E}{L} =$ *68.98%*

Percentage from Table, Line A. *Tanker* *61.90%*
(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 = *35.67* \times *.619* = *-22.08"*

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>40.53</i>	<i>1</i>		<i>40.53</i>	<i>12.0</i>	<i>12.00</i>	<i>1</i>		<i>12.00</i>
$\frac{1}{2}$ L from A.P.	<i>18.02</i>	<i>4</i>		<i>72.08</i>	<i>2.0</i>	<i>.40</i>	<i>4</i>		<i>1.60</i>
$\frac{3}{4}$ L "	<i>4.45</i>	<i>2</i>		<i>8.90</i>	<i>0.0</i>	<i>0</i>	<i>2</i>		<i>0</i>
Amidships	<i>✓</i>	<i>4</i>		<i>✓</i>	<i>0.0</i>	<i>✓</i>	<i>4</i>		<i>✓</i>
$\frac{3}{4}$ L from F.P.	<i>8.91</i>	<i>2</i>		<i>17.82</i>	<i>1.0</i>	<i>0</i>	<i>2</i>		<i>0</i>
$\frac{1}{2}$ L "	<i>36.05</i>	<i>4</i>		<i>144.20</i>	<i>5.0</i>	<i>1.5</i>	<i>4</i>		<i>6.0</i>
F.P.	<i>81.00</i>	<i>1</i>		<i>81.00</i>	<i>16.0</i>	<i>15.00</i>	<i>1</i>		<i>15.00</i>
Total				<i>364.53</i>					<i>34.60</i>

Mean actual sheer aft = *Deficient*
Mean standard sheer aft

Mean actual sheer forward = *Deficient*
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *Tanker*
aft of " =

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{329.90}{18} (.75 - .1656) = +10.71"$
If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck =	<i>15.03</i>
Summer freeboard =	<i>1.85</i>
Moulded draught (d) =	<i>13.18</i>
Tropical freeboard and addition for	
Freeboard = $\frac{d}{4}$ inches =	<i>3.29 = 3\frac{1}{4}"</i>
Winter North Atlantic Freeboard (if	
<i>3.05 = 3"</i>	

Deduction for Fresh Water.

Displacement in salt water at summer load water line	
$\Delta =$ <i>4693</i>	
Tons per inch immersion at summer load water line	
$T =$ <i>33.00</i>	
Deduction = $\frac{\Delta}{40T}$ inches	
$=$ <i>3.53"</i>	
$=$ <i>3\frac{1}{2}"</i>	

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient	$\frac{.809 + .68}{1.36} = \frac{1.489}{1.36}$	<i>42.10</i>
		<i>46.09</i>
Depth Correction	<i>-12.43</i>	
Deduction for superstructures	<i>-22.08</i>	
Sheer correction	<i>10.71</i>	
Round of Beam correction	<i>-</i>	
Correction for Thickness of Deck amidships	<i>-</i>	
Other corrections, scantlings, etc.	<i>-</i>	
	<i>10.71 34.51</i>	<i>-23.80</i>
Summer Freeboard =	<i>22.29</i>	

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

Tropical Fresh Water Line above Centre of Disc	<i>6\frac{3}{4}"</i>	Tropical Fresh Water Freeboard	<i>1'-10\frac{1}{4}"</i>
Fresh Water Line " "	<i>3\frac{1}{2}"</i>	Fresh Water " "	<i>1'-3\frac{1}{2}"</i>
Tropical Line " "	<i>3\frac{1}{2}"</i>	Tropical " "	<i>1'-6\frac{3}{4}"</i>
Winter Line below " "	<i>3\frac{1}{2}"</i>	Winter " "	<i>1'-7"</i>
Winter North Atlantic Line " "	<i>6\frac{1}{4}"</i>	Winter North Atlantic " "	<i>2'-1\frac{1}{2}"</i>
			<i>2'-4\frac{1}{2}"</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	5. O. T. H. 20 Manholes 1 manhole						
Dimensions of Hatchway	3' x 3' 6" 18' x 13" 16' x 12"						
COAMINGS	Height above Deck	...	6 x 3 1/2 x 4 1/2						
	Thickness { Sides	...	3/8						
	Thickness { Ends	...	3/8						
	Stiffeners	flat bar						
HATCH BEAMS	Brackets, Stays	...	of 3 1/2 x 1/2						
	Number	...	riveted around						
	Spacing	...	side of						
	Scantling and Sketch	...	coaming with 1 inch distance piece for receiving packing.						
FORE AND AFTERS	Bearing Surface	...							
	Number	...	Hatch cover						
	Spacing	...	3/8 plate						
	Unsupported Lengths	...	with one angle stiffener						
HATCH COVERS	Scantling and Sketch	...	of 4 x 3 x 3/8 angle and 12 toggles.						
	Bearing Surface	...							
	Material	...	steel						
	Thickness	...	3/8						
Spacing of Cleats	How fitted	...	hinged						
	Bearing Surface	...	0. T.						
	Number of Tarpaulins	...	✓						
		...	✓						
<p>*Are wood fore and afters steel shod at all bearing surfaces?</p> <p>Are battens and wedges efficient and in good condition?</p> <p>Are tarpaulins in good condition and in accordance with rule requirements?</p> <p>Are lashings provided in accordance with rule requirements?</p>									

Particulars of fiddle, funnel and ventilator coamings:—

The ventilators to Fire-room and Engine Room in efficient condition!
 Fiddle enclosed. Funnel with casing in efficient condition!
 The Engine Room skylights of steel strongly constructed and in efficient condition.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—

none.

Two steel ladders with handrails each side from trunk deck to freeboard deck.

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

Forecastle Deck. 2 - 12 inch ventilators. 36 x 5 1/16 coaming to Pump Room.
 Trunk Top. 2 - 6 inch. 24" x 1/4" coaming to Copperdam.
 Poop Deck. 1 - 9 inch. 24" x 1/4" coaming to Brew Mess. Room.
 " " 1 - 12 inch. 30 x 5 1/16 " " Steering Engine.
 Wood plugs & canvas covers provided

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

Forecastle Deck. 2 - 3 inch vents & filling Fore Peak Tank. 7 m above deck.
 2 - 2 1/4 inch vents to Lamp and Paint Rooms. 26" above deck.
 2 - Rollers with 8 inch vents from Fore Peak Tank. 2 m above
 Trunk Top. 5 - 4 inch air vents with gauge on Main Cargo Hatch. 18 m
 2 - 2 inch vents to Copperdam under midship accommodation. 48 m
 1 - 2 inch vent & sound to after Copperdam. 8 m above!

Particulars of Gangway Cargo and Coaling Ports:—

none

Freeboard Deck. 4 - 3 inch vents to Wing Ballast Tank. 7 m
 6 - 2 inch " " Ballast Spaces. 8 m a
 10 - 2 inch vent & sound to Ballast & Ballast Spaces.
 2 - 4 inch vents P & S Bunkers through Ballast Coaming
 Poop Deck. 4 - Rollers with 6 and 8 inch vents from Fore Peak Tank. 18 m
 2 - 2 1/4 inch vents to Angle and Brew Bathrooms. 26 m
 2 - 3 inch vents and filling to after Peak. 26 m
 1 - 2 inch air & sound " " " 26 m
 2 - 2 1/2 " " " " " 26 m

Air pipes filled with wire gauge or canvas covers