

WRECK SECTION

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **239-22**
(For London Office only.)P. No. **561****20 JUN 1935**Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
Having **SHELTER DECK**Port of Survey **CALCUTTA.**

(Type of Superstructures.)

Date of Survey **17.5.32.**

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

S.S. NIRVANA**BRITISH GLASGOW.****136329.****6044.****1914-10.**Name of Surveyor **J. Seabrook**Moulded Dimensions: Length **450'**Breadth **56' 55.75"**Depth **29'-8"**Moulded displacement at moulded draught = 85 per cent. of moulded depth **14226** tonsCoefficient of fineness for use with Tables **.787**Particulars of Classification **+100% 1. Shelter deck with freeboard**

Depth for Freeboard (D)

Depth correction

Round of Beam correction

Moulded depth ... **29.66**(a) Where D is greater than Table depth
(D - Table depth) R =Moulded Breadth (B) **56' 55.75"**Stringer plate ... **.04**(b) Where D is less than Table depth (if allowed)
(Table depth - D) R =Standard Round of Beam = $\frac{B \times 12}{50} =$ **13.45.13.38**

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$ Ship's Round of Beam = **14.00**Difference **.62**Depth for Freeboard (D) = **29.71**

If restricted by superstructures

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.62}{4} (1 - .995) = .00075$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	18.538.83	18.5	8-0		18.5
overhang ...		38.83			38.85
R.Q.D. enclosed ...					
overhang ...					
Bridge enclosed ...	42.9	42.9	8-0		42.9
overhang aft ...					
overhang forward ...					
W'cle enclosed ...	406.75	406.75	8-0		406.75
overhang ...					
Trunk aft ...	4.5	2.25	8-0		2.25
forward ...					
Trunnion opening aft ...	4.42	2.21	8-0		2.21
forward ...					
Total ...	450.	447.159			447.159

Standard Height of Superstructure **4'-6"**

R.Q.D.

Deduction for complete superstructure **42.**Percentage covered $\frac{S}{L} =$ **1.0** $\frac{S_1}{L} =$ **.995** $\frac{E}{L} =$ **.995**Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) **99.385%**Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = **41.4**

SHEER CORRECTION.

Actual H. S.P. = **8'-0"**
Standard " = **7'-6"**
.6"

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	55.	1	55	55	64.60	40.660	1	40.660	40.660
$\frac{1}{2}$ L from A.P. ...	24.45	4	99.9	399.6	26.5	26.5	4	106	106
$\frac{2}{3}$ L " ...	605	2	12.1	24.2	6.5	6.5	2	13	13
Amidships ...	0.	4	0.	0.	0.	0.	4	0.	0.
$\frac{3}{4}$ L from F.P. ...	12.10	2	24.2	48.4	13.1364	13.1364	2	26.2728	26.2728
$\frac{1}{2}$ L " ...	48.95	4	195.8	783.2	55.5470	55.5470	4	222.188	222.188
F.P. ...	110.0	1	110.0	110.0	129.1260	129.1260	1	129.1260	129.1260
Total ...			495.0			+6"			608.594.0

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{1.57}{18} (75-.5) = -1.37$

If limited on account of midship superstructure.

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 = **29.71**Summer freeboard = **4.16**Moulded draught (d) = **25.55**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.39 = 6.5"**

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$ **14487**

Tons per inch immersion at summer load water line

 $T =$ **51.72**Deduction = $\frac{\Delta}{40T}$ inches $=$ **7.00"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

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

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

43.98 - 43.98Summer Freeboard = **49.94**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	13.2
Fresh Water Line " " ...	7
Tropical Line " " ...	6.5
Winter Line below " " ...	6.2
Winter North Atlantic Line " " ...	✓

Tropical Fresh Water Freeboard ...	3.05
Fresh Water " " ...	3.7
Tropical " " ...	3.75
Winter " " ...	4-8.5
Winter North Atlantic " " ...	✓

4'-2"**3.05****3.7****3.75****4-8.5****✓****22.532****22.532****22.532****22.532****22.532**

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

SUPERSTRUCTURE DECK — HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway			No.1	No.2	No.3	BUNKER	No.4	No.5		
Dimensions of Hatchway			19'-10½" 21'-0"	24'-3½" 21'-0"	28'-8½" 21'-0"	5'-9" 16'-0"	28'-8½" 21'-0"	24'-3½" 21'-0"		
COAMINGS	{	Height above Deck	31"	31"	28½"	31"	31"	31"		
		Thickness	Sides	.50	.52	.56	.56	.52	.50	
			Ends	.40	.40	.40	.40	.40	.40	
		Stiffeners	...	✓	✓	✓	✓	✓	✓	
		Brackets, Stays	✓	✓	✓	✓	✓	✓		
HATCH BEAMS	{	Number	3	4	5	NIL	5	4		
		Spacing	5'-0"	4'-11"	4'-10"	✓	4'-10"	4'-10"		
		Scantling and Sketch	4x3x40							
			25x40	-do-	-do-	-do-	-do-	-do-		
		Bearing Surface	1½' x 3½"	-do-	-do-	-do-	-do-	-do-		
FORE AND AFTERS	{	Number								
		Spacing								
		Unsupported Lengths								
		Scantling* and Sketch								
		Bearing Surface								
HATCH COVERS	{	Material	PINE							
		Thickness	2½"	-do-	-do-	-do-	-do-	-do-		
		How fitted	Angles							
		Bearing Surface	56 sq/ft	40 sq/ft	84 sq/ft	14"	84 sq/ft	10 sq/ft		
Spacing of Cleats			2'-0"	-do-	-do-	-do-	-do-	-do-		
Number of Tarpaulins			3	-do-	-do-	-do-	-do-	-do-		

Freeboard deck Hatch particulars similar except height of Coaming 11 inches thickness of Coaming 5/8" beams 21 inches deep. Spacing of cleats 3'-0"

1 tarpaulin fitted to each hatchway
4 Trimming Hatches P&S abreast
Machinery casings
3-6 x 7-6 } 10 x 3 1/2 BA coamings
3-6 x 4-6 } hatch covers
3-6 x 3-8 } tarpaulins
3-6 x 4-0 } + cleats.

?

*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?

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Particulars of fiddle, funnel and ventilator coamings:—

Donkey funnel - fiddle plate forward + at sides - 56 openings fitted with plating + steel storm covers. (mangled)
2 - 3'-3" dia ventilators to stokehold 12'-0" high.
4 - 20" dia ventilators to E.R. - coaming 3'-0" - .25 plating.

Particulars of Flush Bunker Scuttles:—

- Nil -

Particulars of Companionways:—

Steel companionways with teakwood doors between Nos 1-2 and Nos 4-5 hatchways 2'-0" x 4'-3"

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

22" inch dia ventilators - coamings 2'-6" high - plating .25. - closed by wooden plugs - canvas covers.
Derrick posts also used as ventilators.

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

Swan-neck 3 inch dia N.I. pipes 1'-6" high fitted in Superstructure deck waterways.
Wood plugs provided for closing air pipes during

Particulars of Gangway Cargo and Coaling Ports:—

Two hinged cargo doors on each side of vessel in shelter deck 3'-9" x 5'-6"
Secured by channel strongbacks.



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Lloyd's Register of Shipping.

Ship's Name s.s. "NIRVANA".

Official No. 136329.

Memorandum of alterations reported since ship was surveyed for assignment of Load Lines
in MAY, 1932.

Port Side in Shelter Deck.

Engine room casing extended toward ship's side, leaving a 3 foot fore and aft alleyway, to form Refrigerating Machinery Room. This casing is intact in the shelter deck, access being from the Engine Room via doorway 6'-0" x 2'-0".

One 16" diameter ventilator is fitted from the boat deck to the Refrigerating Machinery Room - Coaming 30" high fitted with wood plug and canvas covers. Ventilator tube passes through Engineer's accommodation on superstructure deck.

Starboard side in Shelter Deck.

Pocket bunker trimming hatch removed and deck closed by rivetted plate. 3'-6" x 6'-0" doorway cut in ER casing. Sill 18" high. Closed by hinged steel door secured by bolts.


Hatchway to Steward's Store on superstructure deck plated up with $\frac{1}{2}$ " plate and 8" bulb angle stiffener.

New steel booby hatch 4'-0" x 3'-0" abaft engine room casing enclosing companionway to Steward's store - plating $\frac{5}{8}$ " - stiffeners 3 x 3 x $\frac{1}{2}$ " - door 5'-0" x 2'-0" - 18" sill with hinged wooden slab hatch at deck inside - $\frac{1}{2}$ " steel hinged door secured by bolts and locks.

CALCUTTA RPT.C11(A)

DATED 26.5.37.

Noted
6/8/37

5 Scupperns on each side of Shelter Deck  $4\frac{1}{2}'' \times 2\frac{1}{2}''$ closed by steel plates & dogs
All sanitary discharges fitted with storm valves
Drinking pots in lounge opening $2'-0'' \times 1'-0''$

Particulars of Side Scuttles :

9" dia side girdles with c.l. covers in shelter deck.
10 " " " " " " " Grain bins.

Particulars of Guard Rails :—

Particulars of Guard Rails:—
 Short bulwarks in way of accommodation only - these bar rails 3' 9" high
 round rest of vessel.

Particulars of Gangways, Lifelines, etc. :—

— 111 —

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						

— RAILS FITTED —

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.

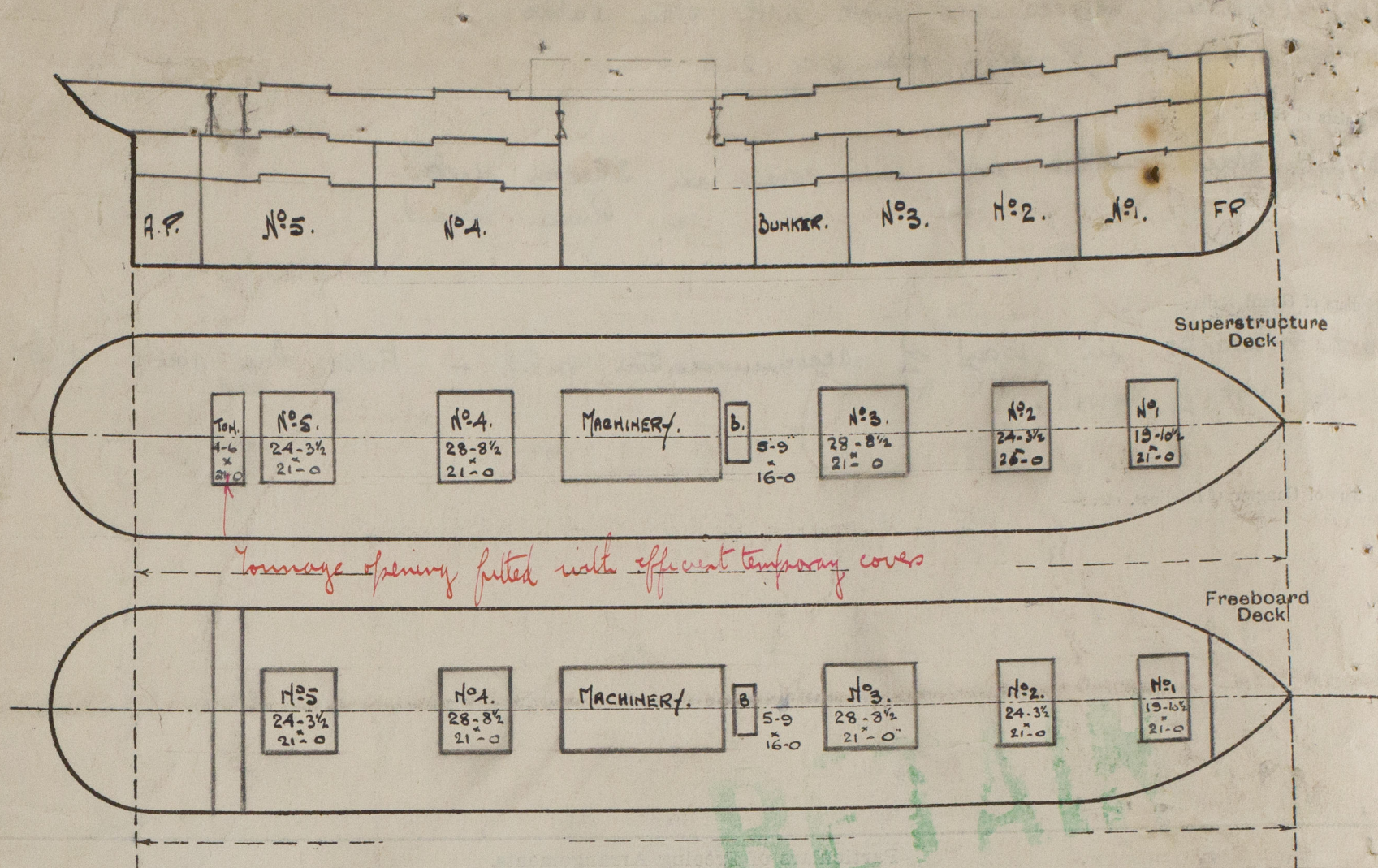
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Pop Bulkhead	$3\frac{1}{2} \times 3\frac{1}{2} \times \frac{3}{8}$	.25	$3\frac{1}{2} \times 3 \times \frac{3}{8}$	2' - 9"	NIL	$3'-6" \times 5'-6"$ NONE	21"	8'-0"
Raised Quarter Deck Bulkhead ...						$20'3\frac{1}{8}" \times 5\frac{1}{8}"$	21	8'-0"
Bridge, After Bulkhead ...	$3 \times 3 \times \frac{3}{8}$	.25	$3 \times 3 \times \frac{3}{8}$	not available	/	$2'-0" \times 5'-3"$	15"	7'-0"
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead	$4 \times 4 \times \frac{1}{2}$	.25	$3\frac{1}{2} \times 3 \times \frac{3}{8}$	2' - 6"	NIL	NIL	/	8'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks								
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	$3 \times 3 \times \frac{3}{8}$	$\frac{3}{8}$	$3 \times 3 \times \frac{3}{8}$	4' - 0"	NIL	$2'-3" \times 5'-0"$	18"	7'-0"
Deckhouses on Flush Deck Ships ...								

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

Particulars ... Closing Appliances (State if Capable of ...)

Poop Bulkhead	...	...	Poop Bulkhead: - ^{no opening} two transverse strong timbers full height in <i>metal channels</i>
Raised Quarter Deck Bulkhead	...	...
Bridge, After Bulkhead	...	...	Bridge House: - fully plated in forward & after bulkheads - oak & teakwood
Bridge, Forward Bulkhead	...	...	entrance door on each side of house.
Forecastle Bulkhead	...	...	Forecastle Bulkhead: - completely plated.
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...	B.R. Casings: - enclosed in anti-ship accommodation - two
Exposed Machinery Casings on Super-structure Decks	...	...	entrances with steel doors - fore part of casing completely
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	plated - Teakwood skylight hand operated -
Deckhouses on Flush Deck Ships	...	...	<i>Hinged steel doors secured by handles & locks.</i>

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 shown on the following sketches:—



Freeboard deck unsheathed -

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

Particulars taken when vessel was in dry dock for condition survey -
(Full particulars not given - accurate information not available - see cable)

Builder's name and yard number

Names of sister ships

Owners

British India Steam Nav Co

Fee

Rupers: 325/-

Received by me

J. S. S. S.