

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Index. No. 35301  
(For London Office only.)

JUN 14 1937

 Computation of Freeboard for MOTOR Ship, 1  
 having COMPLETE SUPERSTRUCTURE AND FORECASTLE
Port of Survey WEJERMÜNDEDate of Survey JUNE 1937Name of Surveyor A. HolteParticulars of Classification \* 100 A1  
WITH FREEBOARD

Empire Scale (Type of Superstructures.)

Ship's Name "TAKORADIA" NOW  
"TAKORADI PALM"

Nationality and Port of Official Number Registry BRITISH 157533  
FREETOWN 5452  
(SIERRA LEONE) 1937

Gross Tonnage 11038

Moulded Dimensions: Length 415.85' Breadth 56.5' Depth 26.17'

Moulded displacement at moulded draught = 85 per cent. of moulded depth = 10940 tons

Coefficient of fineness for use with Tables .739

Depth for Freeboard (D)

Moulded depth ... 26.17'

Stringer plate ... .03'

Sheathing on exposed deck ✓

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

Depth for Freeboard (D) = 26.20'

Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R = ✓

(b) Where D is less than Table depth (if allowed)  
(Table depth-D) R = (26.17 - 26.20) 3 = -4.56"  
1.52

If restricted by superstructures ✓

Round of Beam correction

Moulded Breadth (B) 56.5'

Standard Round of Beam =  $\frac{B \times 12}{50} =$  13.56"

Ship's Round of Beam (all decks) = 13.40"

Difference deficient = .16"

Restricted to

Correction =  $\frac{\text{Diff}^o}{4} \times \left( 1 - \frac{S_1}{L} \right) =$   $\frac{.16}{4} \times .0054 = \text{NIL}$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
	FEET	FEET	FEET		
Poop enclosed ...	<u>28.36</u>	<u>28.36</u>	<u>12.0</u>	<u>✓</u>	<u>28.36</u>
" overhang ...	<u>.275</u>	<u>.14</u>	<u>✓</u>		<u>.14</u>
R.Q.D. enclosed ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
" overhang ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
Bridge enclosed ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
" overhang aft ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
" overhang forward ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
Forecastle enclosed ...	<u>382.44</u>	<u>382.44</u>	<u>12.0</u>		<u>382.44</u>
" overhang ...	<u>.275</u>	<u>.21</u>	<u>✓</u>		<u>.21</u>
Trunk aft ...	<u>✓</u>	<u>✓</u>	<u>✓</u>		
" forward ...	<u>4.50</u>	<u>2.35</u>	<u>12.0</u>	<u>1/2 DIFF</u>	
Tonnage opening aft ...	<u>5.05</u>	<u>2.52</u>	<u>12.0</u>		<u>2.35</u>
" forward ...	<u>✓</u>	<u>.50</u>	<u>✓</u>		
Total ...	<u>415.85</u>	<u>413.52</u>			<u>413.50</u>

Standard Height of Superstructure 7.50'

" " R.Q.D. ✓

Deduction for complete superstructure 42.00"

Percentage covered  $\frac{S}{L} =$  100.00

" "  $\frac{S_1}{L} =$  99.43

" "  $\frac{E}{L} =$  99.43

Percentage from Table, Line A. 99.30  
(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 = 42.00 x .993 = -41.70"

SHEER CORRECTION. SEE SKETCH ON PAGE 4.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
					INCHES				
A.P. ...	<u>51.59</u>	<u>1</u>		<u>51.59</u>	<u>59</u>	<u>113</u>	<u>1</u>		<u>113.00</u>
$\frac{1}{2}$ L from A.P. ...	<u>22.955</u>	<u>4</u>		<u>91.82</u>	<u>27</u>	<u>50.28</u>	<u>4</u>		<u>201.12</u>
$\frac{3}{4}$ L " ...	<u>5.67</u>	<u>2</u>		<u>11.34</u>	<u>8</u>	<u>12.43</u>	<u>2</u>		<u>24.86</u>
Amidships ...	<u>-</u>	<u>4</u>		<u>-</u>	<u>0</u>	<u>0</u>	<u>4</u>		<u>-</u>
$\frac{3}{4}$ L from F.P. ...	<u>11.35</u>	<u>2</u>		<u>22.70</u>	<u>14</u>	<u>19.03</u>	<u>2</u>		<u>38.06</u>
$\frac{1}{2}$ L " ...	<u>45.91</u>	<u>4</u>		<u>183.64</u>	<u>53</u>	<u>76.98</u>	<u>4</u>		<u>307.92</u>
F.P. ...	<u>103.17</u>	<u>1</u>		<u>103.17</u>	<u>119</u>	<u>173</u>	<u>1</u>		<u>173.00</u>
Total ...				<u>464.20</u>	<u>+54"</u>				<u>857.96</u>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$   $\frac{393.70}{18} (.75 - .50) = -5.47"$

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.

Ft.

Depth to Freeboard Deck = 26.20

Summer freeboard = 2.33

Moulded draught (d) = 23.87

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 5.97 - 6"Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

SEE PAGE 4

Displacement in salt water at summer load water line

 $\Delta =$  12051

Tons per inch immersion at summer load water line

T = 47.08

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

= 6.40 = 6 1/2"

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient .739 + .68 = 1.419

1.36 1.36

Depth Correction ... 4.56

Deduction for superstructures ... 41.70

Sheer correction ... 5.47

Round of Beam correction ... -

Correction for Thickness of Deck amidships ... -

Other corrections, scantlings, etc. ... -

76.47

79.78

51.73

Summer Freeboard = 28.05

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

Tropical Fresh Water Line above Centre of Disc ...	<u>12 1/2"</u>	Tropical Fresh Water Freeboard ...	<u>2 1/4"</u>
Fresh Water Line " " ...	<u>6 1/2"</u>	Fresh Water " " ...	<u>1 3/4"</u>
Tropical Line " " ...	<u>6"</u>	Tropical " " ...	<u>1 9/16"</u>
Winter Line below " " ...	<u>6"</u>	Winter " " ...	<u>1 10"</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>2 10"</u>

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# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.											
Description of Hatchway	ON DECK	HATCHWAY No. I		HATCHWAY No. II		HATCHWAY No. III		HATCHWAY No. IV		HATCHWAY No. V	
		CHUTE	FREEBOARD	CHUTE	FREEBOARD	CHUTE	FREEBOARD	CHUTE	FREEBOARD	CHUTE	FREEBOARD
Dimensions of Hatchway	IN FEET	31.5 x 20	31.5 x 20	30.36 x 20	30.36 x 20	28.72 x 17	19.65 x 20	33 x 20	33 x 20	27.72 x 20	27.72 x 20
Height above Deck		30	12	30	12	TRUNKED	12	30	12	30	12
Thickness	Sides	.44	.55	.44	.55	PLATING .44	.55	.44	.55	.44	.55
	Ends	.44	.55	.44	.55	PLATING .36	.55	.44	.55	.44	.55
Stiffeners		SEE SKETCH	NONE	SEE SKETCH	NONE	3" x 1 1/2" AT STIFFENING FRAMES	NONE	SEE SKETCH	NONE	SEE SKETCH	NONE
Brackets, Stays		3	3	3	3	3	3	3	3	3	3
Number Spacing		5.3	5.3	5.1	5.1	4.8	4.9	5.5	5.5	5.6	5.6
Scantling and Sketch		ALL SHIFTING BEAMS MADE OF U.M. STEEL ELECTRICALLY WELDED AS PER APPROVED PLAN OF 22.9.46									
FORE AND AFTERS		NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE	NONE
Bearing Surface		WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
HATCH COVERS		2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
Material		WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
Thickness		2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
How fitted		3	3	3	3	3	3	3	3	3	3
Bearing Surface		WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD
Spacing of Cleats	IN FEET	2	2	2	2	2	2	2	2	2	2
Number of Taraulins		3	3	3	3	3	3	3	3	3	3

Particulars of fiddle, funnel and ventilator coamings:— FIDDLEY TOP AND MOTOR CASINGS - 3 1/2" ABOVE BOAT DECK AND BOAT DECK - 8 FEET ABOVE CHUTE DECK, STRONGLY CONSTRUCTED AND SIDES PROTECTED BY ORANGELY BUILT STEEL DECK HOUSES. FUNNEL, VENTILATORS AND ENGINE OR LIGHT OF STEEL ORANGELY CONSTRUCTED AND EFFICIENTLY CONNECTED TO FIDDLEY TOP. FIDDLEY OPENINGS ARE NOT FITTED.

Particulars of Flush Bunker Scuttles:—

NONE

Particulars of Companionways:— ALL COMPANIONWAYS ARE SITUATED INSIDE SUPERSTRUCTURES.

ALL ENTRANCES TO MOTOR ROOM ETC. ARE SITUATED INSIDE STRONGLY BUILT STEEL DECK HOUSES. DOORS, SILLS AND OTHER PARTICULARS FOR ENTRANCES ARE SHOWN BY SKETCH ON PAGE 4.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— NO VENTILATORS IN EXPOSED POSITION ON FREEBOARD DECK. ALL VENTILATOR COAMINGS ON CHUTE DECK ARE 34"-36" HIGH AND ON FORECASTLE TO SPACES BELOW CHUTE DECK - 36" HIGH AND TO FISTLE SPACES ABOVE CHUTE DECK - 30" HIGH ABOVE DECK, ALL AS PER RULES. WOOD PLUGS AND CANVAS COVERS ARE PROVIDED FOR CLOSING THE OPENINGS OF THE VENTILATOR COAMINGS.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— ALL AIR PIPES ARE OF SUBSTANTIAL CONSTRUCTION AND ARE PROVIDED WITH EFFICIENT MEANS OF CLOSING THEIR OPENINGS. HEIGHT OF THE AIR PIPE OPENINGS - 18"-30" ABOVE CHUTE DECK AND FORECASTLE DECK.

Particulars of Gangway Cargo and Coaling Ports:—

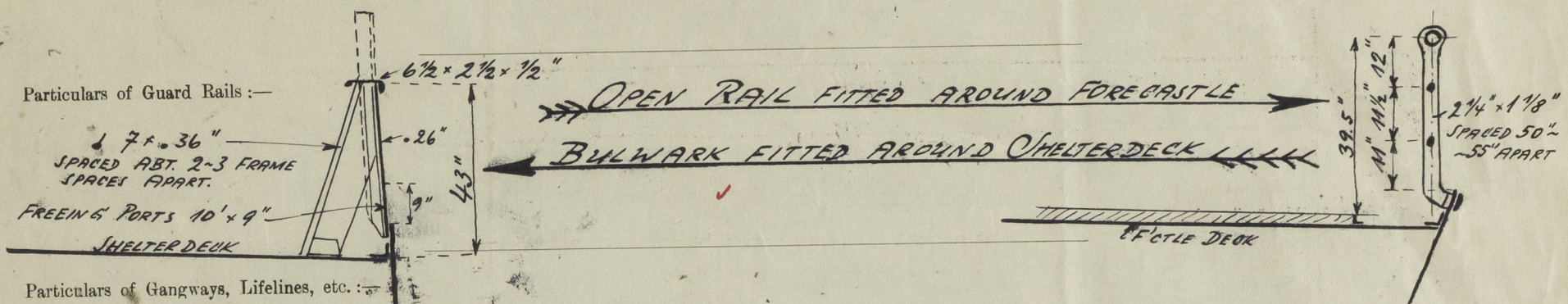
NONE

Particulars of Scuppers and Sanitary Discharge Pipes:— NO SCUPPERS TO OUTBOARDS FITTED IN WAY OF CHUTE TWEENDECK CHARGE SPACES, ONLY ONE 5" SCUPPER EACH SIDE TO OUTBOARDS FITTED IN WAY OF TONNAGE WELL WITH NON RETURN SCREW DOWN VALVE, CAPABLE OF BEING OPERATED FROM CHUTE DECK. TWO 5" SCUPPER PIPES EACH SIDE LED TO THE ENGINE BILGES FROM CHUTE TWEENDECK SPACES AMIDSHIP FITTED WITH CLOSING VALVES. DRAIN HOLES 2 1/2" FITTED IN THE LOWEST CORNER OF THE TWEENDECK TONNAGE BULKHEADS, SEE SKETCH ON PAGE 4. ALL SANITARY DISCHARGE PIPES AND SCUPPERS ARE FITTED WITH STORM VALVES AS PER RULES, POSITION OF DISCHARGES SHOWN BY SKETCH ON PAGE 4.

Particulars of Side Scuttles:—

NO SIDE SCUTTLES FITTED BELOW FREEBOARD DECK.

ALL SIDE SCUTTLES ABOVE FREEBOARD DECK HAVE DEAD LIGHTS AS PER RULES.



Particulars of Gangways, Lifelines, etc.:—

NONE

## Particulars of Freeing Arrangements.

	Length of Bulwark FEET	Height of Bulwark INCHES	Size of Freeing Ports INCHES	Number each side	Area each side SQUARE FEET	Rule area each side SQUARE FEET (1/2 of 75)
After Well	376.4	43	118" x 9"	12	88.2	37.5
Forward Well						29.12

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:— WITHOUT SHUTTERS, BARS AND RAILS.

Additional area where sheer is less than standard.

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

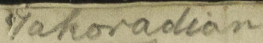
	Coaming INCHES	Plating INCHES	Stiffeners INCHES	Spacing INCHES	End Attachments of Stiffeners	Size of Openings INCHES	Height of Sills INCHES	Height of Casings FEET
Poop Bulkhead as Tonnage Opening	NONE	.24	6 1/2 x 2.5 x .34	30	NONE	49 x 36	23	12
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead as Tonnage Opening	NONE	.24	6 1/2 x 2.5 x .34	30	NONE	49 x 36	23	12
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Machinery Casings on Superstructure Decks	18 x .34	.32	6 1/2 x 2.5 x .32	30	NONE	57 x 26	18	8 3/4
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18 x .44	.32	6 1/2 x 2.5 x .32	30	NONE	NONE		12
Deckhouses on Superstructure Ships	10 x .40	.26	6 1/2 x 2.5 x .32	30	NONE	67 x 25	12	8

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

Poop Bulkhead as Tonnage Opening	SHIFTING BOARDS OF WOOD 1 1/2" THICK IN CHANNELS FOR FULL HEIGHT.	TWEENDECK SPACE
Raised Quarter Deck Bulkhead		TONNAGE OPG
Bridge, After Bulkhead as Tonnage Opening	SHIFTING BOARDS OF WOOD 1 1/2" THICK IN CHANNELS FOR FULL HEIGHT.	TWEENDECK SPACE
Bridge, Forward Bulkhead		
Forecastle Bulkhead		
Exposed Machinery Casings on Freeboard or Raised Quarter Decks		
Machinery Casings on Superstructure Decks	HINGED STRONGLY BUILT STEEL DOORS, CAPABLE OF BEING OPERATED FROM BOTH SIDES.	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances		
Deckhouses on Superstructure Ships	HINGED STEEL AND HARD WOOD DOORS, STRONGLY BUILT, CAPABLE OF BEING OPERATED FROM BOTH SIDES.	



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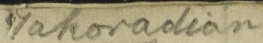
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