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Rpt. C.11.

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

14653

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having RAISED QUARTER DECK, BRIDGE & FORECASTLE

(Type of Superstructures.)

Port of Survey MIDDLESBROUGH

Date of Survey 1932 May 18. 31

Name of Surveyor Horichon

Particulars of Classification + 100 R.I.

Ship's Name S. "MIDDLESBRO"

Nationality and Port of Registry BRITISH NEWCASTLE

Official Number 148093

Gross Tonnage 989

Date of Build 1924 10 mo.

Moulded Dimensions: Length 225 Breadth 32 Depth 16' 6"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1904 tons

Coefficient of fineness for use with Tables Lowest in Table 68 13 1576 T.P.I. 13.15 1735 T.P.I. 13.33

Survey Held in Dry Dock.

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	16.50	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	32.00
Stringer plate	9/20 .04	(16.54 - 15.00) 1.731 = + 2.67"		Standard Round of Beam = $\frac{B \times 12}{50}$	7.68
Sheathing on exposed deck	✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	✓	Ship's Round of Beam	8
T $\left(\frac{L-S}{L}\right)$		If restricted by superstructures	✓	Difference	.32
Depth for Freeboard (D) =	16.54			Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.32}{4} \times .393 = -.03$

### 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 ...	96.3	96.30	3' 10"	✓	96.30
" overhang ...	NONE				
Bridge enclosed ...	13.4	13.40	7.0	✓	13.40
" overhang aft ...	3				
" overhang forward ...	NONE				
F'cle enclosed ...	26.6	26.89	7.0	✓	26.89
" overhang ...	3				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	136.59	136.59			136.59

Standard Height of Superstructure 6.00

" " R.Q.D. 3.833

Deduction for complete superstructure 28.50

Percentage covered  $\frac{S}{L} = 60.71\%$

" "  $\frac{S_1}{L} = 60.71\%$

" "  $\frac{E}{L} = 60.71\%$

Percentage from Table, Line A. 47.21%  
(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 =  $28.50 \times .4721 = - 13.46$

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	32.50	1		32.50	22	22.00	1		22.00
1/4 L from A.P. ...	14.46	4		57.84	9.48	9.48	4		37.92
2/4 L " ...	3.57	2		7.14	2.36	2.37	2		4.74
Amidships ...	✓	4		✓	0	✓	4		✓
3/4 L from F.P. ...	7.15	2		14.30	4.72	4.71	2		9.42
1/4 L " ...	28.93	4		115.72	18.96	18.96	4		75.84
F.P. ...	65.00	1		65.00	42.5	42.50	1		42.50
Total ...				292.50					192.42

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 = NIL  
" " aft of " = 487L

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{100.08}{18} \left( .75 - .3035 \right) = + 2.48$

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 = 16.54 Ft.  
Summer freeboard = 1.60  
Moulded draught (d) = 14.94

### Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches =  $3.73 = 3 \frac{3}{4}$

Addition for Winter North Atlantic Freeboard (if required) = 2

### Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =  
Tons per inch immersion at summer load water line

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

### TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	2.67	✓
Deduction for superstructures	✓	13.46
Sheer correction	2.48	✓
Round of Beam correction	✓	.03
Correction for Thickness of Deck amidships	✓	
Other corrections, scantlings, etc.	✓	
	5.15	13.49

Summer Freeboard = 19.21

### SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: - 1' 7 1/4

Tropical Fresh Water Line above Centre of Disc	...
Fresh Water Line	"
Tropical Line	"
Winter Line below	"
Winter North Atlantic Line	"

Tropical Fresh Water Freeboard	...
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

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1906 Freeboards re-assigned  
1-10



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		No. 1	No. 2	No. 3					
Dimensions of Hatchway		UPPER DK.	UPPER DK.	Q <sup>rs</sup> DK.					
		32'7" x 19'0"	32'7" x 19'0"	28'9" x 18'0"					
COAMINGS	Height above Deck	3'0"	3'0"	2'6"					
	Thickness	.44	.44	.44					
	Sides	.44	.44	.44					
	Ends	.44	.44	.44					
Stiffeners		B.A. 7" x 3"	B.A. 7" x 3"	B.A. 7" x 3"					
Brackets, Stays		BUILD PTS. 3 OFF	BUILD PTS. 3 OFF	4" x 3" L 2 OFF					
HATCH BEAMS	Number	6	6	5					
	Spacing	4'8"	4'8"	4'9"					
	Scantling and Sketch	17" x 36"	17" x 36"	16" x 36"					
		4" x 3" x 44"	4" x 3" x 46"	4" x 3" x 44"					
Bearing Surface		4"	4"	4"					
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
Bearing Surface									
HATCH COVERS	Material	W.W.	W.W.	W.W.					
	Thickness	3"	3"	3"					
	How fitted	SOLID	SOLID	SOLID					
	Bearing Surface	3"	3"	3"					
Spacing of Cleats		24"	24"	22"					
Number of Tarpaulins		3	3	3					
*Are wood fore and afters steel shod at all bearing surfaces? <b>YES</b> Are battens and wedges efficient and in good condition? <b>YES</b> Are tarpaulins in good condition and in accordance with rule requirements? <b>YES</b> Are lashings provided in accordance with rule requirements? <b>YES. LOCKING BARS</b>									

Particulars of fiddle, funnel and ventilator coamings:—

STOKEHOLD GRATINGS COVERED BY STRONG STEEL HINGED COVERS.  
 FIDDLEY & FUNNEL VENTILATORS IN EFFICIENT CONDITION.  
 ENGINE SKYLIGHT OF STEEL WITH STRONG STEEL FLAPS.

Particulars of Flush Bunker Scuttles:—

NONE FITTED.

Particulars of Companionways:—

TO BRIDGE ACCOMMODATION  
 STEEL COMPANIONS AT AFT END OF BRIDGE (ONE PORT ONE STAR)  
 3'9" x 2'3" .25 PLATING 7'0" HIGH SOLID WOOD DOOR 5'0" x 4'7"  
 SILL 1'6" DOORS OPERATED FROM BOTH SIDES.

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

ONE CONL VENT<sup>rs</sup> ON FLE DK. TO FOR<sup>rs</sup> CARGO HOLD COAM<sup>rs</sup> 39" x 20" 12" DIA.  
 ONE CONL " ON UPPER DK. " " " 39" x 20" 12" DIA.  
 TWO " " QUARTER DK. AFT " " 36" x 20" 12" DIA.  
 TWO " " " TO STOKEHOLD " 40" x 20" 14" DIA.  
 ONE " " " TO TUNNEL " 36" x 20" 4 1/2" DIA.  
 VENTILATOR COAMINGS CLOSED BY WOOD PLUGS & CANVAS COVERS.

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

GOOSE NECK AIR PIPES TO D.B.T. I.P. I.S. ON FLE DK. 2" INSIDE DIA. 23 1/2" HIGH.  
 " " " " I.P. I.S. ON UPPER DK. FOR<sup>rs</sup> WELL 2" DIA. 25" "  
 " " " " I.P. I.S. ON QUARTER DK. 2" DIA. 24" HIGH (USED AS SOUNDING PIPE)  
 " " " " I.P. I.S. " " 2" DIA. 24 1/2" HIGH  
 SHIFTING HOLES IN GOOSE NECKS & CLOSING APPLIANCES PROVIDED IN ALL AIR PIPES.  
 SOUNDING PIPES WITH BRASS SCREW CAPS 20 4'0" HIGH ABOVE DK. & 2'0" HIGH ABOVE DK.

Particulars of Gangway Cargo and Coaling Ports:—

NONE FITTED.



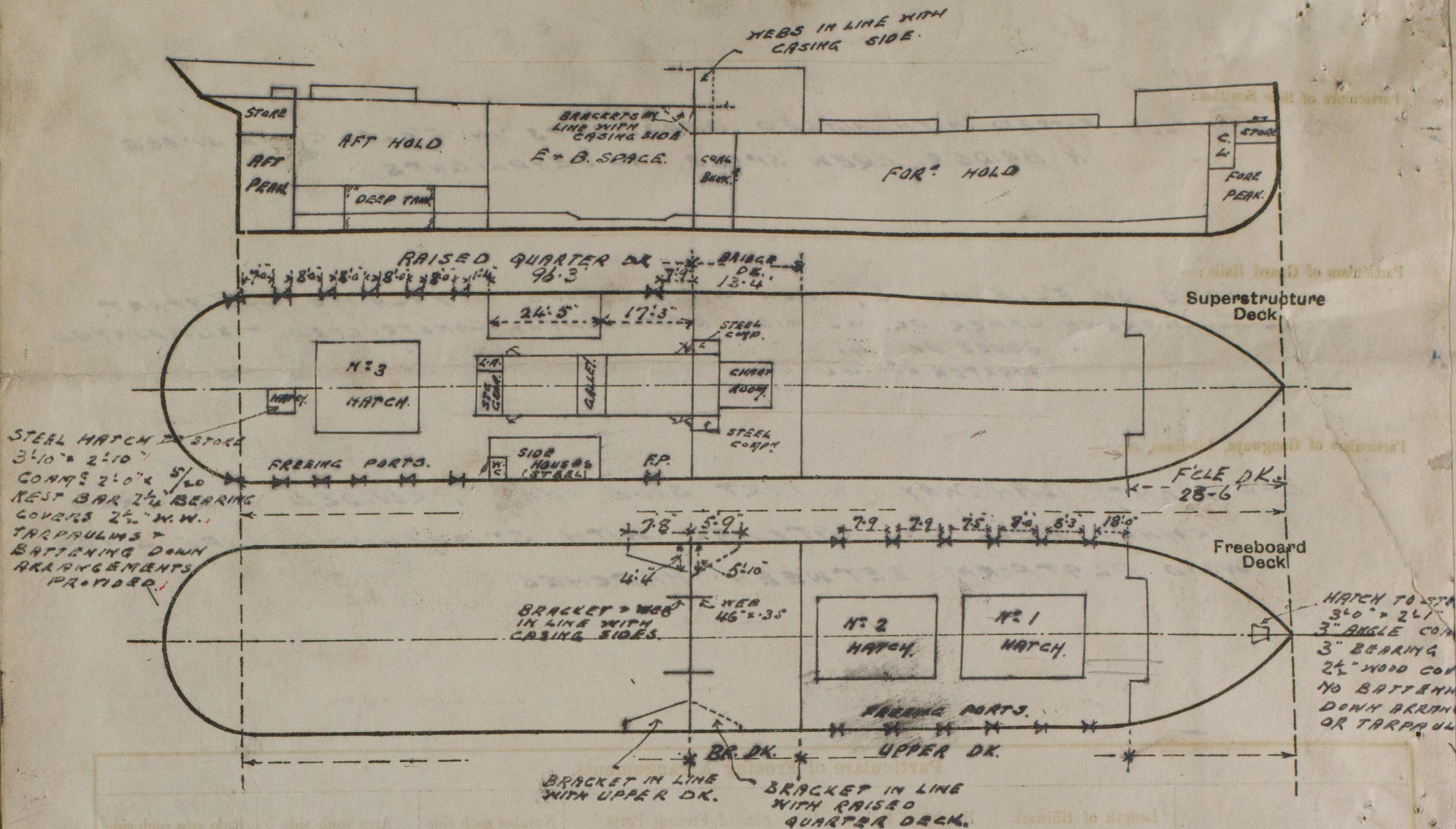






Middlebrook

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 shewn on the following sketches:—

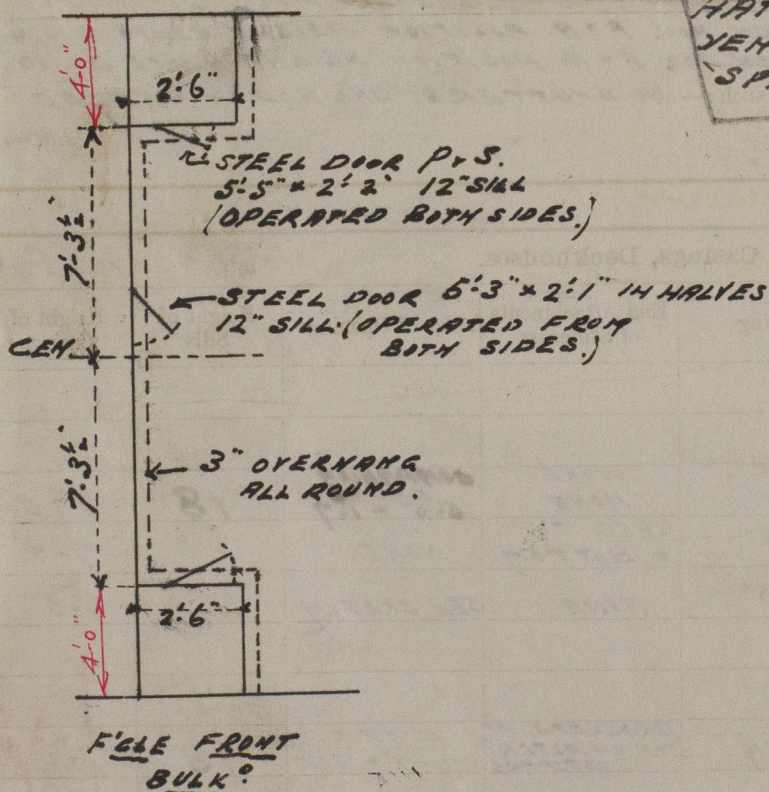


$$\text{Toucanette} = 2600 + \frac{4 \times 2.5}{11.29} = 2689$$

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

SURVEY MADE IN DRY DOCK. BOTTOM, RUDDER, DECK, HATCH CORNERS, COVERS, WEBS & SUPPORTS, VENTILATORS, HOLDS ABOVE CEILING, BRIDGE & MAIN SPACES & GENERAL EQUIPMENT EXAMINED.



Builder's name and yard number. HANTHORN LESLIE & CO. L<sup>td</sup> N<sup>o</sup> 535

Names of sister ships.

Owners. TYNE TEES STEAM SHIPPING CO. L<sup>td</sup>.

Fee £ 6 : 16 : - Received by me

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