

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

ROBERT BORINHOFFEN

Index. No. 27496  
(For London Office only.)DISCLOSED  
DAY NO. 207-3

23 MAR 1934

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Bridge + Forecastle on Shelter DeckPort of Survey FalmouthLOWER GROUND (Type of Superstructures.)Date of Survey 9.3.34 + 21.3.34

Ship's Name SS. S. Bethwell Nationality and Port of Registry Hamburg, British  
Sarnum London Official Number 143057 Gross Tonnage 6723 Date of Build 1919/4

Name of Surveyor Arthur Scullard

Moulded Dimensions: Length 410.79, Breadth 55.16, Depth 29'0" to Main bk  
37'05" to Shel tons  
 Moulded displacement at moulded draught = 85 per cent. of moulded depth 16020  
 Coefficient of fineness for use with Tables .786

Particulars of Classification \* 100 A.1.  
Shelter dk with freeboard  
SS 100 2-27

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	37.05	(a) Where D is greater than Table depth (D-Table depth) R = (37.10 - 27.39) 3.00		Moulded Breadth (B)	55.16
Stringer plate	.05	= + 29.13		Standard Round of Beam = $\frac{B \times 12}{50}$	13.24
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	✓	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = ✓		Ship's Round of Beam	Shel bk 13
Depth for Freeboard (D) =	37.10	If restricted by superstructures ✓		Difference	Main 13 1/2 24" deficient
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{24}{4} \times .8362 = +.05$

## 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 ...	✓				
" overhang ...	✓				
Bridge enclosed ...	33.2	33.17	8'0"		33.17
" overhang aft ...	✓				
" overhang forward ...	✓				
Fore enclosed ...	35.10	35.83	7'0"	7.00 7.50	33.44
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" " forward ...	✓				
Total ...	69.00	69.00			66.61

Standard Height of Superstructure 7.50'  
 " " R.Q.D. ✓  
 Deduction for complete superstructure 42.00"  
 Percentage covered  $\frac{S}{L} = 16.80\%$  ✓  
 "  $\frac{S_1}{L} = 16.80\%$   
 "  $\frac{E}{L} = 16.21\%$   
 Percentage from Table, Line A. 8.10%  
 (corrected for absence of forecastle (if required))  
 Percentage from Table, Line B. 10.28%  
 (corrected for absence of forecastle (if required))  
 Interpolation for bridge less than 2L (if required)  $8.10 + (2.18 \times \frac{33.17}{82.16})$   
 Deduction =  $42.00 \times .0898 = - 3.77"$  ✓ = 8.98

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	57.08	1		57.08	57.50	57.50	1		57.50
1/4 L from A.P. ...	22.73	4		90.92	22.96	22.96	4		91.84
3/4 L " ...	5.62	2		11.24	5.74	5.74	2		11.48
Amidships ...	✓	4		✓	✓	✓	4		✓
3/4 L from F.P. ...	11.24	2		22.48	14.23	14.23	2		28.46
1/4 L " ...	45.46	4		181.48	56.92	56.92	4		227.68
F.P. ...	102.16	1		102.16	132.00	132.00	1		132.00
Total ...				459.72	✓				548.96

Mean actual sheer aft = Excess  
 Mean standard sheer aft

Mean actual sheer forward = Excess  
 Mean standard sheer forward

Length of enclosed superstructure forward of amidships = } No Bridge  
 " " aft of " = } inside 2L

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{89.24}{18} (.75 - .084) = - 3.30$  ✓

If limited on account of midship superstructure. Yes. Nil. ✓

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.

Ft.  
 Depth to Freeboard Deck = 37.10  
 Summer freeboard = 8.83  
 Moulded draught (d) = 28.27

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 7.06 = 7"  
 Addition for Winter North Atlantic Freeboard (if required) =

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 =  $\frac{\Delta}{40T}$  inches =TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	29.13	✓
Deduction for superstructures ...	-	3.74
Sheer correction ...	-	-
Round of Beam correction ...	.05	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	29.18	3.74

Summer Freeboard = 106.09SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: -

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

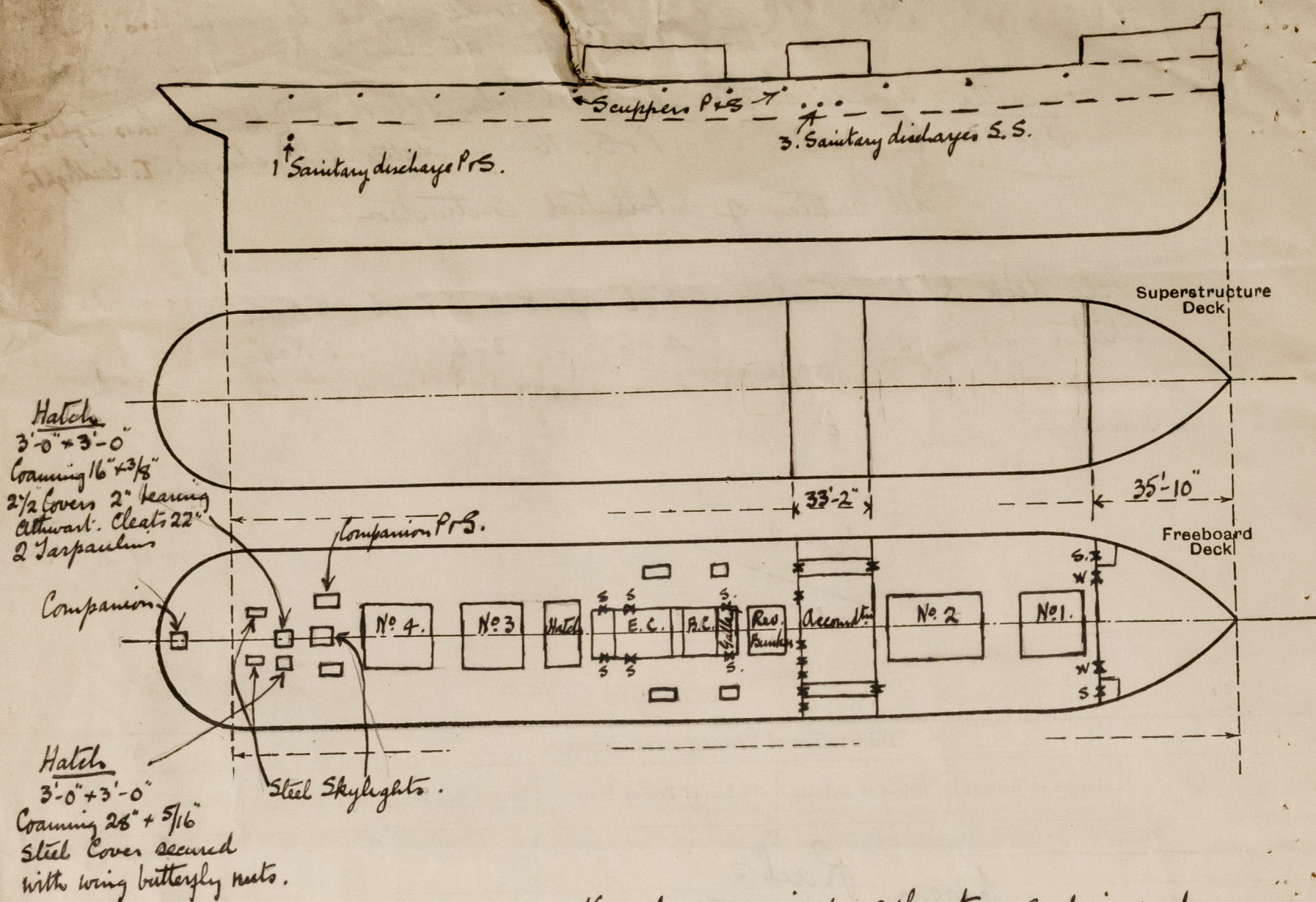
Tropical Fresh Water Freeboard ...  
 Fresh Water " ...  
 Tropical " ...  
 Winter " ...  
 Winter North Atlantic " ...







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:—



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

the S.S. No. 3.

Vessel examined afloat. and is undergoing

The vessel has been sold to Messrs Rethymnis & Kulukundis Ltd  
Bury Court House 7/8 Bury Court, London E.C. 3. (see below)

Note:— The vessels new name & Port of Registry will be forwarded later.

Builder's name and yard number

Names of sister ships

Owners

Fee £

17 0 0

Received by me

This report refers to the S.S. "Bothwell".

Messrs. Tramp Shipping Development Co. Ltd.



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Foundation