

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, ~~SAILING SHIP, TANKER.~~)

Index No. 35581
(For London Office only).

2nd 2181

MAR 11 1938

Ship's Name 1/5 BROOMFIELD. (1/5 No 871.)	Official Number 166230	Nationality and Port of Registry Liverpool British.	Gross Tonnage 659.98 657.36 (13/5/38)	Date of Build 1938.	Port of Survey Lytham (Liverpool)
Moulded Dimensions: Length 170'-6" Breadth 28'-8" Depth 13'-6" <i>dwel dk.</i>				Date of Survey 5/2/38 & during building	Surveyor's Signature <i>W. Webb</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth @ 11-5 3/4 = 1126 tons				Particulars of Classification +100 A1. <i>Contemplated</i>	
Coefficient of fineness for use with Tables .703					

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 13.5	(a) Where D is greater than Table depth (D - Table depth) R = (13.53 - 11.37) 1.311 = +2.83"	Moulded Breadth (B) 28.66'
Stringer plate03	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = 2.16	Standard Round of Beam = $\frac{B \times 12}{50} = \mathbf{6.88''}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ none	If restricted by superstructures ✓	Ship's Round of Beam = 7."
Depth for Freeboard (D) = 13.53		Difference = .12
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.12}{4} \times .2812 = \mathbf{.01''}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
„ overhang ...					
R.Q.D. enclosed ...	101.50	101.50			
„ overhang ...	21.04	101.83	3.75		101.50
Bridge enclosed ...					
„ overhang aft ...					
„ overhang forward ...					
F'cle enclosed OPEN ...	25.04	21.05			
„ overhang ...	5.42	23.16	6.75		21.05
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward ...					
Total ...	126.54	122.55			122.55

Standard Height of Superstructure	6.00'
„ „ R.Q.D.	3.47' 275
Deduction for complete superstructure	23.05"
Percentage covered $\frac{S}{L} =$	74.22
„ „ $\frac{S_1}{L} =$	71.88
„ „ $\frac{E}{L} =$	71.88
Percentage from Table, Line A.	65.31
(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 = 23.05 × .6531 = 15.05"	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	27.05	1		27.05	+ 3.36	32.36	1		32.36
1/4 L from A.P. ...	12.04	4		48.16	14"	14.40	4		57.60
1/2 L „ ...	2.975	2		5.95	3.75	3.56	2		7.12
Amidships ...	-	4		-	0.	-	4		-
3/4 L from F.P. ...	5.95	2		11.90	8.5	8.50	2		17.00
1/4 L „ ...	24.045	4		96.30	31.5	31.50	4		126.00
F.P. ...	54.10	1		54.10	72.0	72.00	1		72.00
Total ...				243.46					312.08

Mean actual sheer aft = 6 zero.	Mean standard sheer aft = 6 zero.
Mean actual sheer forward = 6 zero.	Mean standard sheer forward = 6 zero.
Length of enclosed superstructure forward of amidships = .095 L.	
„ „ aft of „ = .50 L.	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{68.62}{18} \left(\frac{.75 - .3711}{1} \right) = \mathbf{-1.44}$

If limited on account of midship superstructure. $\frac{.195}{.20} \times 1.44 = \mathbf{-1.40''}$

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. RAISED QUARTER Depth to Deck Deck = 17.28 Summer freeboard = 4.17 Moulded draught (d) = 13.11 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.28 = 3 1/4" Addition for Winter North Atlantic Freeboard (if required) = 5 1/4"	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = \frac{12-0}{13-0} = \frac{1080}{1305} = \mathbf{.827}$ Tons per inch immersion at summer load water line $T = \frac{11-0}{13-0} = \frac{9.28}{9.40} = \mathbf{.987}$ Deduction = $\frac{\Delta}{40 T}$ inches = 3.49 = 3 1/2"	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.703 + .68}{1.36} = \frac{1.383}{1.36}$ Depth Correction ... 2.83 Deduction for superstructures ... 15.05 Sheer correction ... 1.40 Round of Beam correction01 Correction for Thickness of Deck amidships ... 45.00 Other corrections, scantlings, etc. ... 47.83 16.46 + 31.37 Summer Freeboard = 50.06
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~ Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	6 1/2"	Tropical Fresh Water Freeboard ...	3' 7 1/2"
Fresh Water Line „ „ ...	3 1/2"	Fresh Water „ „ ...	3' 10 1/2"
Tropical Line „ „ ...	3"	Tropical „ „ ...	3' 11" (LIMITED)
Winter Line below „ „ ...	3 1/4"	Winter „ „ ...	4' 5 1/4"
Winter North Atlantic Line „ „ ...	5 1/4"	Winter North Atlantic „ „ ...	4' 7 1/4"

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

Trade of ship Coaster

Names of sister ships BRACKENFIELD. See Liverpool Rpt No 109753. & acceptance dated 27/10

Builder's name and yard number Lytham S.B. & E. Co. Ltd. S/S No 841.

Owners Zillah Shipping & Carrying Co Ltd. (WA Savage Ltd).

Fee £ : :

will be charged with H.S.

Broomfield.



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Foundation