

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey	NEWCASTLE
having RAISED QUARTER DECK - BRIDGE & FO'CLE					Date of Survey	7 th MARCH 1932
(Type of Superstructures.)					Name of Surveyor	P. D. Broadacre
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build		
CONSETT N.N. "BALOO"	BRITISH NEWCASTLE	143033	1368	1919-3		
Moulded Dimensions: Length 229'0" Breadth 35'8 7/2" Depth 17'7 1/2"					Particulars of Classification	
Moulded displacement at moulded draught = 85 per cent. of moulded depth					✱ 100A1	
Coefficient of fineness for use with Tables						

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 17.62	(a) Where D is greater than Table depth (D - Table depth) R = (17.66 - 15.27) x 1.761 = +4.21	Moulded Breadth (B) 35.62
Stringer plate ... 0.4	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 8.55$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 8.75
Depth for Freeboard (D) = 17.66		Difference .20
		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S}{L} \right) = \frac{.20^2}{4} \left(1 - \frac{70.32}{2968} \right) = -.01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	-	-	-	-	-	Standard Height of Superstructure 6'-0"
" overhang ...	-	-	-	-	-	" " R.Q.D. 3'-10 1/2"
R.Q.D. enclosed ...	79'-1 1/2"	79.12	3'-10 1/2"	✓	79.12	Deduction for complete superstructure 28.9
" overhang ...	-	-	-	-	-	Percentage covered $\frac{S}{L} = 70.80$
Bridge enclosed ...	55'-7"	55.58	7'-0"	✓	55.58	" " $\frac{S_1}{L} = 70.32$
" overhang aft ...	+ 2'-6"	-	-	-	-	" " $\frac{E}{L} = 70.32$
" overhang forward ...	25'-1 1/2"	-	-	-	-	Percentage from Table, Line A. 63.39
F'cle enclosed ...	27'-5 1/2"	25.16	7'-0"	✓	25.16	(corrected for absence of forecastle (if required))
" overhang ...	SEE SKETCH	1.15	-	-	1.15	Percentage from Table, Line B. ✓
Trunk aft ...	-	-	-	-	-	(corrected for absence of forecastle (if required))
" forward ...	-	-	-	-	-	Interpolation for bridge less than 2L (if required) .19
Tonnage opening aft ...	-	-	-	-	-	Deduction = 28.9 x .6339 = -18.32
" " forward	-	-	-	-	-	
Total ...	162.16	161.01	-	-	161.01	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	32.90	1	32.90	39.00	39.0	39.25	1	39.25		Mean actual sheer aft = EXCESS.
1/4 L from A.P. ...	14.64	4	58.56	17.00	16.98	16.98	4	67.92		Mean actual sheer forward = EXCESS.
3/8 L " ...	3.62	2	7.24	4.25	4.24	4.24	2	8.48		Mean standard sheer forward
Amidships ...	-	4	-	-	-	-	4	-		Length of enclosed superstructure forward of amidships = .088
3/4 L from F.P. ...	7.24	2	14.48	8.50	8.59	8.59	2	17.18		" " aft of " = .100
1/2 L " ...	29.28	4	117.12	34.50	34.36	34.36	4	137.44		
F.P. ...	65.80	1	65.80	79.00	79.0	79.00	1	79.00		
Total ...			296.10					349.27		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{53.17}{18} \left(\frac{.75 - .354}{.396} \right) = -1.17 \times \frac{.396}{.200} = -1.10$

If limited on account of midship superstructure. $\frac{.188}{.200}$

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.765 + .68}{1.36} = \frac{1.445}{1.36}$
Depth to Freeboard Deck = 17.66	$\Delta = 3003 @ 16'-8"$	Depth Correction ... 4.21
Summer freeboard = 1.23	Tons per inch immersion at summer load water line	Deduction for superstructures ... 18.32
Moulded draught (d) = 16.43	$T = 16.12$	Sheer correction ... 1.10
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4.11 = 4"	Deduction = $\frac{\Delta}{40T}$ inches = $\frac{3003}{40 \times 16.12} = 4.65 = 4 \frac{3}{4}"$	Round of Beam correction01
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships ...
		Other corrections, scantlings, etc. ...
		4.21 19.43 - 15.22
		Summer Freeboard = 14.86

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

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

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
		UPPER DECK				RAISED Q.DK.		UPPER DECK		BRIDGE	R.Q.D.
										R.Q.D.	CASING
Description of Hatchway		Nº 1.	Nº 2.	Nº 3.	Nº 4.	TO FORE PEAK.	ESCAPE HATCH.	TWO COAL HATCHES.	ESCAPE HATCH.	AFT PEAK.	TOP COAL HATCH.
Dimensions of Hatchway		25'x16'	26'0"x16'	23'x16'	19'2"x16'	2'1"x1'10"	1'7"x2'0"	1'6"x2'0"	1'8"x1'8"	1'10"x3'0"	5'9"x10'0"
COAMINGS	Height above Deck	30"	30"	30"	30"	11"	24"	18"	24"	15"	12"
	Thicknes	44"	44"	44"	44"	3" WOOD	36"	32"	32"	34"	32"
	Sides	44"	44"	44"	44"	3" WOOD	36"	32"	32"	34"	32"
	Stiffeners	3"x3"x468"	3"x3"x468"	3"x3"x468"	3"x3"x468"	3" WOOD	36"	32"	32"	34"	32"
	Brackets, Stays	2" DIA.	2" DIA.	2" DIA.	2" DIA.	3" WOOD	36"	32"	32"	34"	32"
HATCH BEAMS	Number	4	5	4	3						
	Spacing	5'0"	4'4"	4'7"	4'9 1/2"						
	Scantling and Sketch	14"x34"	14"x34"	14"x34"	14"x34"						
		ANGLES 3 1/2"x3 1/2"x40"									
	Bearing Surface	3"	3"	3"	3"						
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch										
	Bearing Surface										
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.		W.P.
	Thickness	3"	3"	3"	3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"		2 1/2"
	How fitted	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.		F.A.
	Bearing Surface	3 1/2"x3"	3 1/2"x3"	3 1/2"x3"	3 1/2"x3"	1 1/2"	1 1/2"	1 1/2"	1 1/2"		2 1/2"
	Spacing of Cleats	22"	22"	22"	22"	—	13"	12"	12"		22"
Number of Tarpaulins		3 TO EACH HATCH									
*Are wood fore and afters steel shod at all bearing surfaces?		YES									
Are battens and wedges efficient and in good condition?		YES									
Are tarpaulins in good condition and in accordance with rule requirements?		YES									
Are lashings provided in accordance with rule requirements?		YES									

Particulars of fiddle, funnel and ventilator coamings:—
 FIDDLE GRATINGS FITTED WITH HINGED STEEL COVERS.
 E.R. SKYLIGHT IS STEEL.
 FIDDLE & FUNNEL VENTS GOOD.

Particulars of Flush Bunker Scuttles:—
 NONE.

Particulars of Companionways:—
 ENTRANCE TO CREWS QUARTERS AT AFT END OF BRIDGE DK. (P & S) ENCLOSED IN STRONG STEEL DECKHOUSE WITH HINGED STEEL DOORS OPERATING BOTH SIDES.
 HEIGHT OF SILL 18"

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 FORE DECK: 1 @ 12" DIA. LED TO HOLD. COAMING 24"x34"
 FORE WELL: 1 @ 12" " " " 36"x34"
 RAISED Q.DK: 2 @ 12" " " " 36"x34"
 VENTILATORS ARE TO RULE REQUIREMENTS.
 CLOSING - WOOD PLUGS AND CANVAS COVERS.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 FORE DECK: 1 C.I. 3 1/2" DIA. LED TO D.B. TANK. HEIGHT TO MOUTH 7"
 FORE WELL: 2 M.I. 2 1/2" " " " 40"
 BRIDGE DECK: 1 M.I. 2 1/2" " " " 28"
 RAISED Q.DK: 2 M.I. 2" " " " 24"
 1 M.I. 4 1/2" " " " 36"
 1 C.I. 3 1/2" " " " 22 1/2"
 AFT PEAK.

Particulars of Gangway Cargo and Coaling Ports:—
 NONE.

Canvas covers fitted for closing

W.C. PIPES LEAD & M.I. STORM VALVES FITTED

Particulars of Side Scuttles :

DEAD-LIGHTS FITTED IN BRIDGE SPACE

Particulars of Guard Rails :—

FOOT & BRIDGE DECKS 2 TIER RAILS 3' 0" IN HEIGHT. STANCHIONS SPACED 4' 7" APART.

FORE WELL - BULWARKS 4'-6" IN HEIGHT SUPPORTED BY 7½" X 40" B.P. STAYS SPACED 6'-0" APART.

RAISED Q. DK.

Particulars of Gangways, Lifelines, etc. :—

Steel wire lifelines set up with stretching screws
bolted in fore well from Bridge to Forecastle Bulkhead
on port and starboard sides

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 R.Q.D. ...	79'-1½"	3'-6"	2-14½" x 7'-11" 1.92 X 1.33 7½" ABOVE DECK.	3 } 3 }	16.14 φ 7.65 φ	15.8 φ.
Forward Well ...	66'-10"	4'-6"	2.33' X 1.83' 11" ABOVE DECK.	3	12.78 φ	13.4 φ.

State position of each freeing port { After Well:— 11'-9" ¹⁶/₁₆ - 37'-0" ¹⁶/₁₆ FROM BRIDGE END
(F. and A. position and height above deck edge) { Forward Well:— 9'-6" ¹⁶/₁₆ - 26'-6" ¹⁶/₁₆ & 43'-0" ¹⁶/₁₆ FOCLE END

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.

TWO HORIZONTAL BARS FORWARD. ✓
ONE " " AFT. ✓

Particulars of Superstructures, Trunks, Casings, Deckhouses.

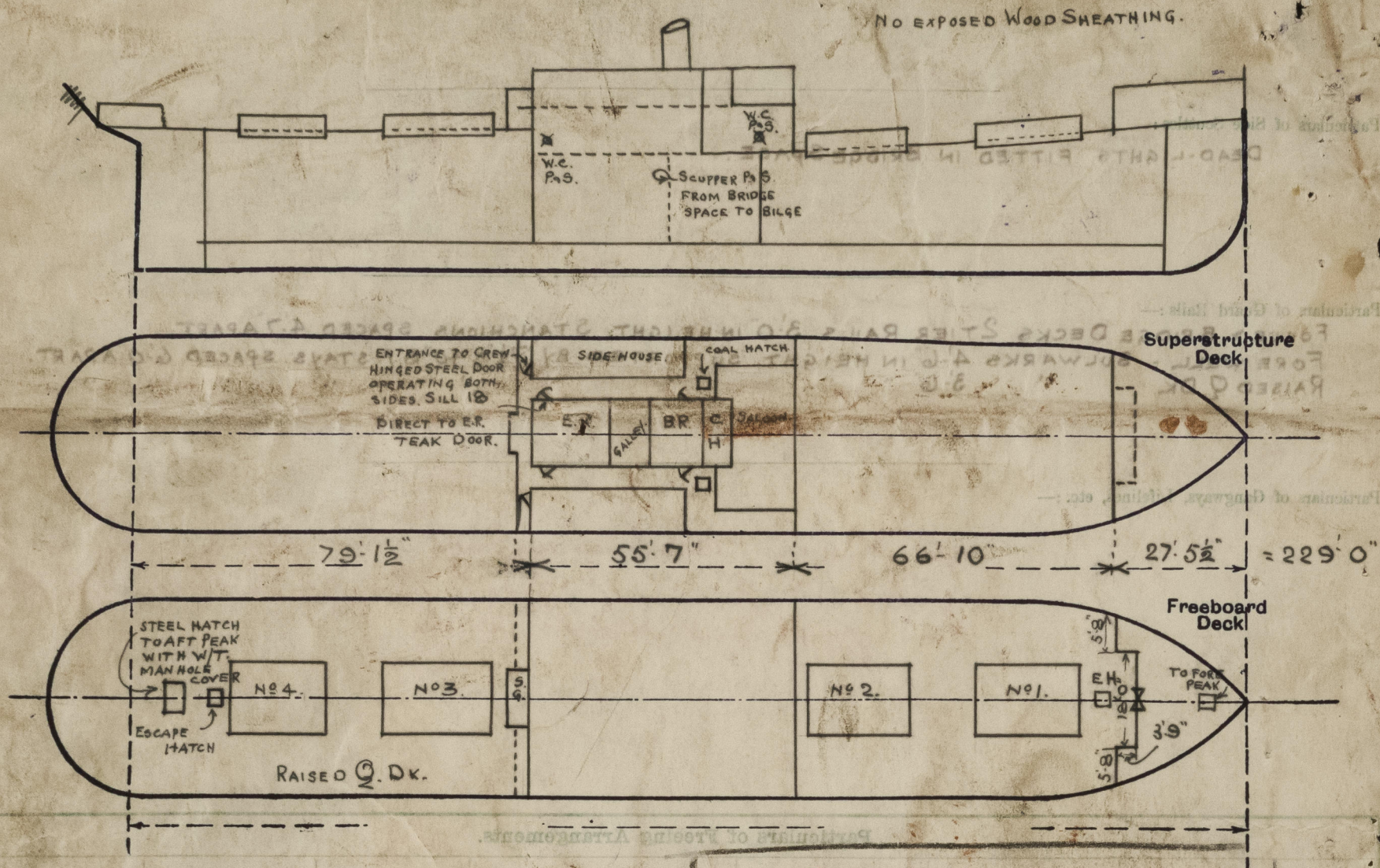
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	—							
Raised Quarter Deck Bulkhead ...	—	32" ✓	6x3x35 BA ✓	30" ✓	BRACKETS ✓	NONE ✓	—	—
Bridge, After Bulkhead ... } ...		ALSO 5 DEEP BRACKETS & DIAPHRAGMS, ETC. ✓						
Bridge, Forward Bulkhead	—	40" ✓	7x3x46 BA ✓	30" ✓	BRACKETS ✓	NONE ✓	—	—
Forecastle Bulkhead	—	28" ✓	3x3x34" ✓	54" ✓	NONE ✓	ONE. 4'5"x3'0" ✓	21" ✓	—
Trunk, Aft	—							
Trunk, Forward	—							
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...	—							
Exposed Machinery Casings on Super- structure Decks	32" ✓	28" ✓	3x3x32" ✓	45" ✓	NONE ✓	2) 5'1"x23" ✓ 3) 5'0"x25" ✓	18" ✓	7'0"
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	—							
Deckhouses on Flush Deck Ships ...	—							

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

Poop Bulkhead	✓	
Raised Quarter Deck Bulkhead ...	✓	No openings
Bridge, After Bulkhead	✓	No openings
Bridge, Forward Bulkhead	✓	No openings
Forecastle Bulkhead		FULL HEIGHT RIVETED CHANNELS WITH 3" WEATHER-BOARDS. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓	
Exposed Machinery Casings on Superstructure Decks		2 HINGED STEEL & 2 HINGED TEAK (FRAME 1 3/8" PANEL 1") ALL OPERATING BOTH SIDES. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	
Deckhouses on Flush Deck Ships ...	✓	

Consett.

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:



FORECASTLE

ENCLOSED = 23.71

HOUSE 3.75 x 5.67 = 1.45

14.67

25.16 TOTAL ENCLOSED

27.46

2.30 OVERHANG

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

NO TIMBER ASSIGNMENT REQUIRED

Particulars of Superstructure, Trunks, Casings, Deckhouses	Coaming	Plating	Self-strengthening	Spacing	End Attachment	Size of Opening	Height of Sills	Height of Opening
Forecastle Bulkhead	—	—	—	—	—	—	—	—
Raised Quarter Deck Bulkhead	—	—	—	—	—	—	—	—
Bridge, After Bulkhead	—	—	—	—	—	—	—	—
Bridge, Forward Bulkhead	—	—	—	—	—	—	—	—
Forecastle Bulkhead	—	—	—	—	—	—	—	—
Trunk, Aft	—	—	—	—	—	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Fore-Board or Raised Quarter Deck	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure	—	—	—	—	—	—	—	—
Machinery Casings with Exposed Pipes and Fittings	—	—	—	—	—	—	—	—
Deckhouses on Main Deck	—	—	—	—	—	—	—	—

Builder's name and yard number CAMPBELTOWN S.B. CO. LD.

Names of sister ships

Owners CONSETT IRON CO. LD.

Fee £ 4 : 10 : 0

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