

Rpt. C.11.

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP BRIDGE AND FORECASTLE.

Port of Survey NEWCASTLE-ON-TYNE.

Date of Survey 1st JUNE /32

Name of Surveyor John A. Rowson.

Particulars of Classification +100.A.1.

Ship's Name CH SING (Type of Superstructures.)
BRIGHTCOMET
Nationality and Port of Registry BRITISH NEWCASTLE Official Number 142829 Gross Tonnage 5295 Date of Build 1919.4
CAIRNGOWAN TSINGTAO

Moulded Dimensions: Length 399.5 Breadth 52.0 Depth 31.0
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12060 tons
Coefficient of fineness for use with Tables .771

Depth for Freeboard (D)
Moulded depth ... 31.00
Stringer plate04
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = 31.04

Depth correction
(a) Where D is greater than Table depth
(D-Table depth) R =
 $(31.04 - 26.63) 3 = +13.23$
(b) Where D is less than Table depth (if allowed)
(Table depth-D) R =
If restricted by superstructures

Round of Beam correction
Moulded Breadth (B) 52
Standard Round of Beam = $\frac{B \times 12}{50} = 12.48$
Ship's Round of Beam = 13
Difference .52
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.52}{4} (.4964) = .06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	49.25	49.25	7.112		49.25
" overhang ...	-				
R.Q.D. enclosed ...	-				
" overhang ...	-				
Bridge enclosed ...	112.66	112.66	7.112		112.66
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	38.25	38.25	7.112		38.25
" overhang ...	-1.0	1.00			1.00
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	201.16	201.16			201.16

Standard Height of Superstructure 7.495
" " R.Q.D. -
Deduction for complete superstructure 41.96
Percentage covered $\frac{S}{L} = 50.36$
" " $\frac{S_1}{L} = 50.36$
" " $\frac{E}{L} = 50.36$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. 36.36
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required) .282
Deduction = 15.26

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	49.95	1		49.95	60.00	60.00	1		60.00
$\frac{1}{6}$ L from A.P. ...	22.23	4		88.92	26.00	26.46	4		105.84
$\frac{2}{6}$ L " ...	5.49	2		10.98	6.2	6.61	2		13.22
Amidships ...		4		-			4		-
$\frac{2}{6}$ L from F.P. ...	10.99	2		21.98	13.0	13.23	2		26.46
$\frac{1}{6}$ L " ...	44.45	4		177.80	52.0	52.93	4		211.72
F.P. ...	99.90	1		99.90	120.0	120.0	1		120.00
Total ...				449.53					537.24

Mean actual sheer aft = Even
Mean standard sheer aft

Mean actual sheer forward = Even
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = 154
" " aft of " = 128

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{87.71}{18} (.75 - .2518) = -2.43$

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.

Depth to Freeboard Deck = 31.04
Summer freeboard = 5.97
Moulded draught (d) = 25.07

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6.27 64

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11591$

Tons per inch immersion at summer load water line

T = 41.3Deduction = $\frac{\Delta}{40T}$ inches7.02

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... 13.23
Deduction for superstructures ... 15.26
Sheer correction ... 2.43
Round of Beam correction06
Correction for Thickness of Deck amidships ...
Other corrections, scantlings, etc. ...

+	-
13.23	15.26
	2.43
	.06
13.23	17.75

Summer Freeboard = 71.60

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

Tropical Fresh Water Line above Centre of Disc ... 13.24
Fresh Water Line " " ... 7
Tropical Line " " ... 6.24
Winter Line below " " ... 6.24
Winter North Atlantic Line " " ...

Tropical Fresh Water Freeboard ... 4-10 1/4
Fresh Water " " ... 5-4 1/2
Tropical " " ... 5-5 1/4
Winter " " ... 6-5 1/4
Winter North Atlantic " " ...

6 JUN 1932

RECEIVED 22 JUN 1932

RECEIVED 4 APR 1935

RECEIVED 11 AUG 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS														
FREEBOARD DECK. → BRIDGE → Fore Deck → ST. SPACE → CASINE														
Description of Hatchway		To STEE FR	To CHIN LOUSE	N°1	N°2	N°4	N°5	N°3	N°3	2 OFF BR HATCH	To STEE	To STEE	FR 2 SPACE TO COAL BUN.	Top. COAL BUN.
Dimensions of Hatchway		3'-8" 2'-11"	1'-11" 1'-11"	32'-6" 20'-0"	34'-8" 20'-0"	34'-8" 20'-0"	28'-2" 10'-0"	10'-10" 18'-0"	10'-10" 18'-0"	8'-6" 3'-11"	2'-4" 2'-5"	5'-8" 4'-0"	2 OFF 8'-8" x 5'-11"	2'-8" 16'-3"
COAMINGS	Height above Deck	18	✓ 18	30	30	30	30	9' 8"	30	30	12	12	9' 8"	7' 8"
	Thickness { Ends	30	30	44	44	44	44	44	44	32	30	30		
	Stiffeners	✓	✓	10' 8"	10' 8"	10' 8"	10' 8"	✓	10					
	Brackets, Stays			2	2	2	2	1						
HATCH BEAMS	Number			6	6	6	5	1						
	Spacing			4' 7 1/2"	4' 10 1/2"	4' 10"	4' 7 1/2"	5' 5"	5' 5"					
	Scantling and Sketch			7" 1/2	3 1/2 x 3 1/2	14 ANGLES	7" 1/2	7" 1/2	11"					
	Bearing Surface	✓	✓	3 1/2 x 3 1/2	46	PLATE 19" x 36"	✓	16 1/2 x 36	18 x 36	3 1/2 x 3 1/2	46			
FORE AND AFTERS	Number													
	Spacing													
	Unsupported Lengths													
	Scantling* and Sketch	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
HATCH COVERS	Material	WP	WP	WP	WP	WP	WP	WP	WP	W.P.	W.P.	W.P.	W.P.	WP
	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	2 1/2	2 1/2	2 1/2
	How fitted			F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	1 A.				
	Bearing Surface	2 1/2	2 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3	2 1/4	2 1/2	3"	2 1/2
Spacing of Cleats		18"	18"	24	24	24	24	24	24	18	18	18	18	18
Number of Tarpaulins		2	2	2	2	2	2	2	2	2	2	2	2	2

IT IS STATED 4 TARP* ARE
SUPPLIED TO ALL WEATHER DECK HATCHES. (ONLY 2 AT PRESENT IN POSITION)

*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 fiddley, funnel and ventilator coamings:— FIDLEY GRATINGS COVERED BY STRONG STEEL COVERS, HINGED, WITH CLIP FASTENINGS. ✓
FUNNEL AND FIDLEY GRATINGS IN EFFICIENT CONITION ✓
ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED. ✓

Particulars of Flush Bunker Scuttles:— **NONE.**

Particulars of Companionways:— To CREN SPACE AFT. THRO' STEEL SIDEHOUSES RIVETED TO D¹⁶
DOORS OF STEEL, 4'-6" x 2'-1" x 18" SILL. OPERATED BOTH SIDES
ONE PORT! ONE STARB^d;

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

FORECASTLE DECK :	VENTS	18" DIA ²	CORNING	34" x 34 TO HOLD.
FOR ^D WELL :	4 "	18" "	" "	" x 38 TO HOLD.
	2 "	18" "	" "	30" x 38 TO HOLD.
	6 "	18" "	" "	36" x 38 TO HOLD.
AFT. WELL :	1 "	12" DIA ²	" "	24" x 25 TO TUNNEL.

BRIDGE DECK : 2 VENTS. 18" DIA² = 35" CORNING. x 36 TO BUN.
2 " 11 " " 24" x 30 TO BUN.

ALL VENTS ARE IN ACCORDANCE WITH RULES AND HAVE WOOD PLUGS & CANVAS COVERS.

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

FILE D ⁵	1 AIR PIPE ^{CI} G.N.	6 TO L.P.	9 TO BEND	9 TO PEAK.	Be. D ⁵	2 GN. AIR PIPES.	11 ¹ / ₂ LF.	14 TO BEND	6 DIA ² TO D.B.
	1 " " CI G.N.	6 " "	9 " "	9 " TO D.O.		2 " " "	9 " "	9 " "	2 " TO D.B.
FOR ² WELL.	3 " " G.N.	36 " "	39 " "	22 ¹ / ₂ TO D.B.		2 GN. " "	9 " "	12 " "	22 " "
						2 GN. " "	6 " "	9 " "	22 " "
AFT WELL.	4 " " GN.	35 " "	37 " "	22 ¹ / ₂ TO D.B.		AIR PIPES HAVE NO SHIFTING HOLES.			
						" " " CANVAS COVERS.			

Particulars of Gangway Cargo and Coaling Ports :— NONE.

Particulars of Scuppers and Sanitary Discharge Pipes — SCUPPER PIPES FROM BRIDGE SPACE HAVE STORM VALVES ON SHIP SIDE. ✓
LAVATORY DISCHARGE PIPES ARE FITTED ABOVE FREEBOARD DECK AND HAVE
STORM VALVES FITTED.
ALL STORM VALVES ARE OF SUBSTANTIAL CONSTRUCTION. ✓
SCUPPER FROM POOP SPACE THRO' SHIP SIDE BELOW F.O.D. DECK HAS STOP COCK FITTED. ✓

Particulars of Side Scuttles : SCUTTLES HAVE HINGED DEADLIGHTS FITTED (ABOVE FREEBOARD DECK)
SCUTTLES ARE OF SUBSTANTIAL CONSTRUCTION.

Particulars of Guard Rails :—	FILE D ^W	2 TIER.	STANCHIONS	3'-1" HIGH.	SPACED	ABOUT	4'-6" APART.
BRIDGE D ^W	3	"	"	3'-3"	"	"	4'-6"
POOP D ^W	2	"	"	3'-0"	"	"	4'-6"

Particulars of Gangways, Lifelines, etc. :- LIFELINES ARE PROVIDED, ^{for the protection of the crew} ~~BUT NOT AT PRESENT FITTED,~~ BETWEEN BRIDGE AND POOP.
(CREW AFT.)

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	99' 8" ✓	3' 8"	4' 0" x 1' 9" (2 MOORING APES 10' 0" DIA)	3	21 ✓	19.93
Forward Well	99' 8" ✓	3' 8"	4' 0" x 1' 9" (2 MOORING APES 6' 0" DIA)	3	21 ✓	19.93

State position of each freeing port { After Well:—1ST 17'-9": 2ND 48'-6": 7TH 13'-0" AFT of G.B. 13" ABOVE D^E
 (F. and A. position and height above deck edge) { Forward Well:—1ST 9'-0": 2ND 35'-6": 3RD 59'-6" FOR^W of B.B.W. 14" ABOVE D^E
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 2 HORIZ^L BARS.

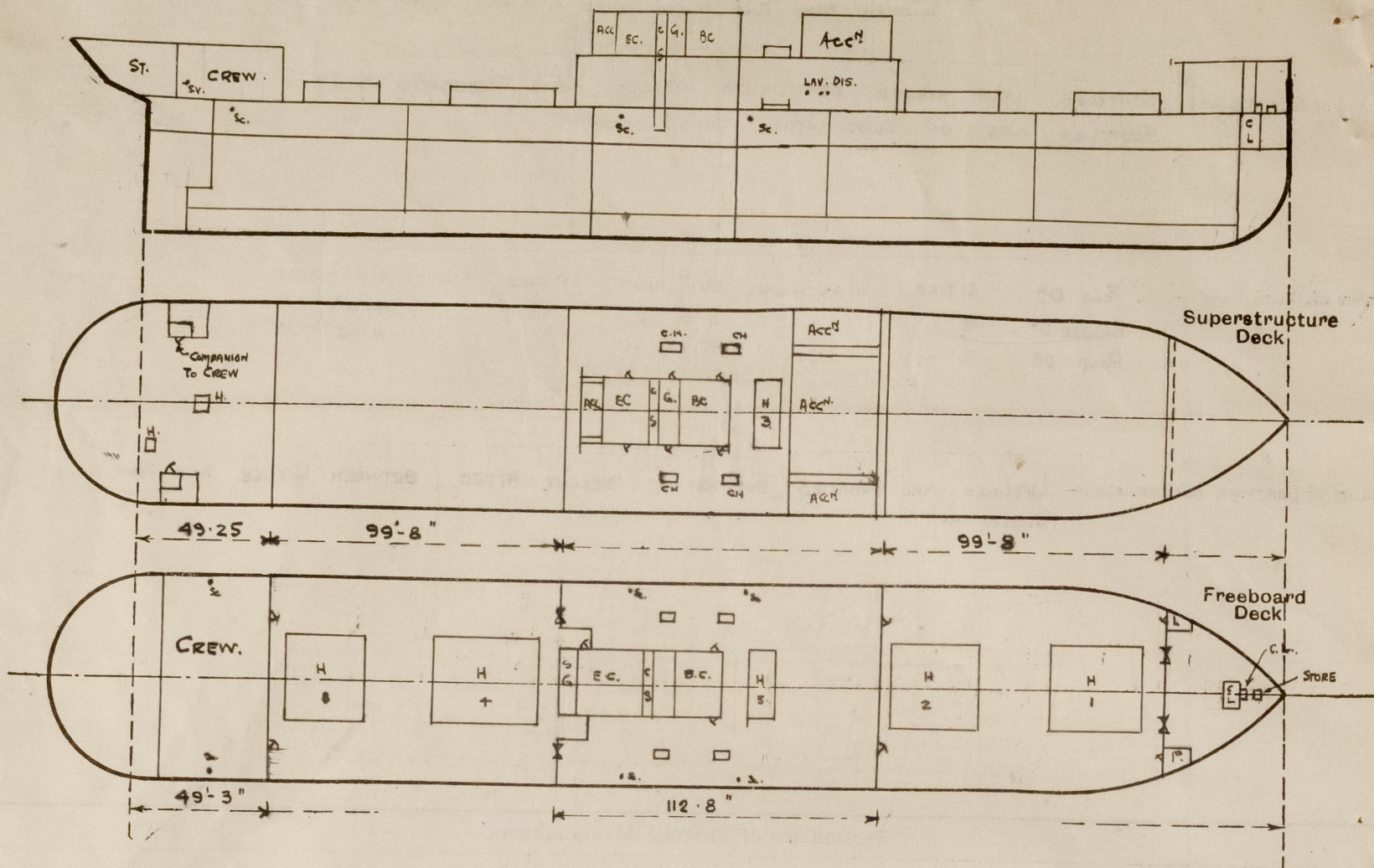
Additional area where sheer is less than standard.

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	1' 40"	1' 40"	6" 3 x 48 L	36" 30"	Lucas Top 1/2 St.	4'-6" x 2'-1"	18"	7' 11 1/2"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	1' 26"	1' 26"	4 1/2" FL	30"	-	4'-6" x 3'-0"	18"	7' 11 1/2"
Bridge, Forward Bulkhead	1' 44"	1' 40"	5" x 3 1/2" x 56 EA	30"	-	4'-5" x 3'-6"	18"	7' 11 1/2"
Forecastle Bulkhead	1' 25"	1' 25"	3 1/2" x 3" x 38" 4" R.	34"	-	T.O. DOORS 4'-6" x 4'-6" 4'-6" x 2'-0"	18"	7' 11 1/2"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	1' 48" SIDE COAM	1' 34" END PL. FREE END COAM	4 1/2" FL. 3 1/2" x 3 1/2" x 40 L	36" 33" 36"	-	4'-6" x 2'-1"	18"	
Exposed Machinery Casings on Super-structure Decks	1' 40"	1' 28"	3" x 3" x 24 L	32"	NO DOOR ST	4'-10" x 22" E.D. 4'-6" x 24" F.D.	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	1' 40"	1' 26"	3" x 3" x 38 L	26 E.C. 32 B.C.	-	4'-6" x 24"	21"	7' 11 1/2"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	2 ORD. ST. HINGED DOORS OPERATED BOTH SIDES. ✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	3" WEATHER BOARDS IN RIVETED CHANNELS. FULL HEIGHT. ✓
Bridge, Forward Bulkhead	ST. DOOR HINGED. 8 CLIPS. OPERATED ^{BOTH SIDES} FORE SIDE ONLY . ✓
Forecastle Bulkhead	3" WEATHER BOARDS IN RIVETED CHANNELS. FULL HEIGHT. ORD. ST. DOORS OP. BOTH SIDES TO S. HOUSES. ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	ORD. ST. HGD DOOR. OPERATED BOTH SIDES. ✓
Exposed Machinery Casings on Superstructure Decks	ENG. ROOM DOORS WOOD. 1 1/2" FRAME. 1" PANEL. OPERATED BOTH SIDES. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	RODLEY " STEEL. HINGED. OPERATED BOTH SIDES. ✓
Deckhouses on Flush Deck Ships ...	ORDINARY STEEL HINGED DOORS. OPERATED BOTH SIDES. ✓

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:—



State any special features in the construction of the ship:— Vessel examined afloat and laid up.

Timber assignment particulars.

Rule 88. Engines and boiler room tank only, undivided longitudinally.

Rule 89. Bulwarks in wells. 3'-8" high. Bulk angle rail 8". Stays 8" dia. spaced about 6 feet.

Rule 90. Steam steering gear fitted in casing. Rods led along hatch side outside stays not protected between hatches. covered by angle in way of hatches.

Rule 91. No arrangement of eyebolts or supports.

Builder's name and yard number Sunderland S. B. Co. Ltd. Sunderland, York N° 820.

Names of sister ships ✓

Owners Cairn line of steam ships Ltd: Newcastle on Tyne.

Fee £ 13 : 12 : 0

Received by me



© 2021

Lloyd's Register
Foundation