

BT COPY WRITTEN

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

31 MAY 1932

Index. No. (For London Office only.)

No 19321

Swansea

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having *Pooh. Shore Bridge and 7' Cl. Decks.*

Port of Survey *Port Talbot.*

"CEMENCO"

BRUCE M (20/3/40)

(Type of Superstructures.)

Date of Survey *May 24th 1932*

Ship's Name
S.S. "Baytree"

Nationality and Port of Registry
British London Sunderland.

Official Number
148354

Gross Tonnage
1887

Date of Build
1927

Name of Surveyor *R.H. Armstrong*

Moulded Dimensions: Length *270'-6"* Breadth *37'-75"* Depth *20'-1"*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *3875* tons
Coefficient of fineness for use with Tables *.779*

Particulars of Classification *+100.A.I.*

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	... 20'-08"	(a) Where D is greater than Table depth (D-Table depth) R =	...	Moulded Breadth (B)	37'-75"
Stringer plate	... 20'-4"	(20'-12" - 18'-00") × 2.079 = +4'-40"	✓	Standard Round of Beam = $\frac{B \times 12}{50}$	= 9'-06"
Sheathing on exposed deck	...	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	...	Ship's Round of Beam	= 9'-2"
T $\left(\frac{L-S}{L}\right)$ =	...	If restricted by superstructures	...	Difference	... 44"
Depth for Freeboard (D) =	20'-12" ✓			Restricted to	...
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	= $\frac{44}{4} \left(1 - \frac{67.05}{67.18}\right)$ = 1'-32.95" = 1'-33"

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure
Pooh enclosed ...	20'-6" 20'-50"	20'-50"	3'-47'-0"	20'-50"	6'-20"
overhang ...	...	...	...	...	R.Q.D. 4'-26"
R.Q.D. enclosed ...	125'-7" 125'-58"	125'-58"	4'-27"	125'-58"	Deduction for complete superstructure 33'-00"
overhang ...	...	...	...	...	Percentage covered $\frac{S}{L} = 67.18$
Bridge enclosed ...	13'-6" 12'-08"	12'-08"	2'-9'-7'-0"	12'-08"	" $\frac{S_1}{L} = 67.05$
overhang aft ...	6'	-	-	-	" $\frac{E}{L} = 67.05$
overhang forward ...	9' 75"	37'	...	37'	Percentage from Table, Line A.
Circle enclosed ...	22'-6" 22'-50"	22'-50"	7'-1"	22'-50"	(corrected for absence of forecastle (if required))
overhang ...	...	...	...	...	Percentage from Table, Line B.
Trunk aft ...	...	...	...	...	(corrected for absence of forecastle (if required))
forward ...	...	...	...	...	Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...	...	...	...	...	Deduction = 33'-00" × 57.93 = - 19'-12"
forward ...	...	...	...	...
Total ...	181'-41"	181'-03"	...	181'-03"	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft
A.P. ...	37'-00"	1	37'-00"	48"	48'-00"	48'-00"	1	48'-00"	48'-00"	Mean actual sheer forward
1/2 L from A.P. ...	16'-46"	4	65'-84"	22"	20'-54"	20'-54"	4	82'-16"	82'-16"	Mean standard sheer aft
1/2 L ...	4'-07"	2	8'-14"	11"	5'-12"	5'-12"	2	10'-24"	10'-24"	Mean standard sheer forward
Amidships ...	...	4	...	...	...	...	4	...	...	Length of enclosed superstructure forward of amidships = 0'-08"
3/4 L from F.P. ...	8'-14"	2	16'-28"	10'-5"	10'-44"	10'-44"	2	20'-88"	20'-88"	" " aft of " = 5'-00"
3/4 L ...	32'-93"	4	131'-72"	42"	41'-86"	41'-86"	4	167'-44"	167'-44"	
F.P. ...	74'-00"	1	74'-00"	96"	96'-00"	96'-00"	1	96'-00"	96'-00"	
Total ...	332'-98"	...	...	...	...	...	...	424'-72"	424'-72"	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{91'-74"}{18} \left(\frac{75-3359}{2 \times 181} \right) = - 2'-11"$										
If limited on account of midship superstructure. $\frac{.186}{.200} \times 2'-11" = - 1'-96"$										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	
Depth to Freeboard Deck =	24'-39"	Δ =	4'-169"	779 + .68 = 1.459	36'-50"
Summer freeboard =	6'-15"	Tons per inch immersion at summer load water line	T = 20'-21"	1.36 = 1.36	39'-16"
Moulded draught (d) =	18'-24"	Deduction = $\frac{\Delta}{40T}$ inches	= 5'-15" = 5'-4"	+	-
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 4'-56" = 4'-2"		Deduction for Winter North Atlantic Freeboard (if required) = 2'		Depth Correction ...	4'-40"
				Deduction for superstructures ...	19'-12"
				Sheer correction ...	1'-96"
				Round of Beam correction ...	...
				Correction for Thickness of Deck amidships ...	...
				Other corrections, scantlings, etc. ...	51'-25"
				Summer Freeboard =	73'-69"

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

Tropical Fresh Water Line above Centre of Disc ...	9'-2"	Tropical Fresh Water Freeboard ...	6'-13 1/4"
Fresh Water Line ...	5'-4"	Fresh Water ...	5'-8 1/2"
Tropical Line ...	4'-2"	Tropical ...	5'-9 1/4"
Winter Line ...	4'-2"	Winter ...	6'-6 1/4"
Winter North Atlantic Line ...	6'-2"	Winter North Atlantic ...	6'-8 1/4"

JUN 1932

RECEIVED 20 MAR 1940

RECEIVED 20 DEC 1935

RECEIVED 6 MAR 1934

RECEIVED

Lloyd's Register

PARTICULARS OF PROTECTION, TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		No 1	No 2	No 3	No 4	IN F.CLE TO FORE PEAK	ON POOP DECK	BUNKER	ESCAPE
								HATCHES R.Q.D.K. 1 P&S	HATCHES TO NOS 1&2 2 3&4 HOLDS
Dimensions of Hatchway		34'-2" x 23'-10" 16'-6"	37'-9" x 25'-1"	29'-1" x 24'-5"	31'-6" x 22'-10"	2'-5" x 2'-5"	2'-5" x 2'-5"	4'-6" x 2'-5"	21" x 18"
COAMINGS	Height above Deck	4'-0" ✓		3'-0" ✓	3'-0" ✓	18" ✓	16" ✓	2'-6" ✓	9" x 3" x 4" B.A. ✓
	Thickness	.50" ✓		.50" ✓	.50" ✓	.36" ✓	.36" ✓	.36" ✓	
	Stiffeners	.50" ✓	As No 1 ✓	.50" ✓	As No 3 ✓	.36" ✓	.36" ✓	.36" ✓	
	Brackets, Stays	7 x 3 x 44 B.A. 2-2 1/2" dia. ✓	3-2 1/2" dia. ✓	7 x 3 x 44 B.A. 2-2" dia. ✓	2-2" dia. ✓				
HATCH BEAMS	Number	6 ✓	7 ✓	5 ✓	6 ✓				
	Spacing	4'-10" ✓	4'-9" ✓	4'-10" ✓	4'-6" ✓				
	Scantling and Sketch	20" ✓ x 36" ✓ 6" x 3" x 40" L. T&B ✓	As No 1 ✓	20" ✓ x 36" ✓ 6" x 3" x 40" L. T&B ✓	As No 3 ✓				
	Bearing Surface	3" ✓		3" ✓					
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	W.W. ✓	W.W. ✓	W.W. ✓	W.W. ✓	W.W. ✓	W.W. ✓	W.W. ✓	HINGED STEEL 32" ✓
	Thickness	3" ✓				3" ✓	2 1/2" ✓	3" ✓	
	How fitted	F-A ✓	As No 1 ✓	As No 1 ✓	As No 1 ✓	F-A. 3" ✓	F-A 2 1/2" ✓	P-S. 3" ✓	
	Bearing Surface	3 x 6" ✓							
Spacing of Cleats		24" ✓	As No 1 ✓	As No 1 ✓	As No 1 ✓	16 1/2" ✓	18" ✓	21" ✓	10" ✓
Number of Tarpaulins		3 ✓	As No 1 ✓	As No 1 ✓	As No 1 ✓	2. ✓	2. ✓	2. ✓	2 BUTTERFLY CLIPS. ✓
Steel wedges Steel wedges Steel wedges									

*Are wood fore and afters steel shod at all bearing surfaces? ✓
 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. ✓

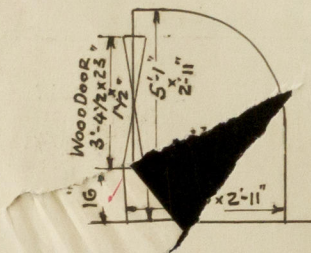
Particulars of fiddley, funnel and ventilator coamings:—

Casing Top plated. Gratings & strong steel Hinged covers ✓
Main funnel coaming riveted to casing top. 13" high ✓
Vents to Boiler & Engine Room in efficient condition. ✓
Engine Room Skylight steel strongly constructed 3 hinged flaps each side ✓
X Bunker Hatch on casing top 13'-6" x 3'-11" coaming 12" high x 3/4" thick ✓
bearing 3" W. W. covers 3" F-A. Steel battens & wedges of steel. ✓

lars of Flush Bunker Scuttles :—

None. ✓

Particulars of Companionways :—



To Crews Quarters in Poop

Plating .36" ✓

Teak Wood Door, Opened from both sides
Hinged on outside. ✓

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

1-7½" DIA: coaming 3'-0" high x 36" ON FLE TO FORE PEAK.
1-15 " " " " " " " " NO. 1 HOLD.
3- " " " " 2-6 " x 36 ON FORWELL TO " S.
4- " " " " " " " " AFTER " " "
1-9 " " " " 3-0 " x " " " " TUNNEL
2-8½ " " " " " " " " R.Q.D " SIDE BUNKERS.

Wood plugs & Canvas covers provided.

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

1-Steel pipe 21" high from freeboard Deck 3 1/2" dia. in File: from Fore Peak. ✓

6. " 3.5 ✓ " " " " " " " D.B. Tanks.

2- " " 2-5 ✓ " " " " " " " " & E.R. "

6 " " 2-4 " " " " " " " " " " & Deep Tan

1- " " $7\frac{1}{2}$ " " " Poop " 4" " " after Peak.

Filling pipes - 2 - " " 2 1/2 " " Freeboard " 2 1/2 " To Deep Tank.

Canvas covers provided for closing air pipes

Particulars of Gangway Cargo and Coaling Ports:—

Name.

Cementos.

Particulars of Scuppers and Sanitary Discharge Pipes —

Capt's W.C. discharge 4" dia. Valve on ship's side, above Freeboard Dk. ✓
" Bath " 2 " " " " " " " " " ✓
Engro W.C. " 4 " " " " " " " " " ✓
" Bath " 2 " " " " " " " " " ✓
In Poop. Crews W.C. " 4 " " " " " " " " " ✓
" Wash Place " 2 " " " " " " " " " ✓

Particulars of Side Scuttles:

In F'ble. side Houses 9" dia. hinged glass circles. C.I. deadlights strongly constructed. ✓
" Bridge " 10" " " " " " " " " " ✓
" Poop " 9" " " " " " " " " " ✓

Particulars of Guard Rails:—

On F'ble. Dk. having two rods 3'-0" high with stanchions 4'-0" apart. ✓
" Bridge " " " " " " " " " " 5'-4" ✓
" Poop " " " " " " " " " " 4'-9" ✓

Particulars of Gangways, Lifelines, etc.:—

None.

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	125'-8" ✓	3'-0" ✓	4'-0" x 15" 2'-8" x 15"	6	19.68 16.32 25.68 f. ✓	25.0 f. ✓
Forward Well	90'-0" ✓ 88'-11" ✓	4'-0" ✓	3'-6" x 21½"	6	37.56 f. ✓	17.8 f. ✓

State position of each freeing port { After Well:—
(F. and A. position and height above deck edge) { Forward Well:—
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.

R.A. ports: 1 hor. bar
Upper dk: -2-

Particulars of Superstructures, Trunks, Casings, Deckhouses.

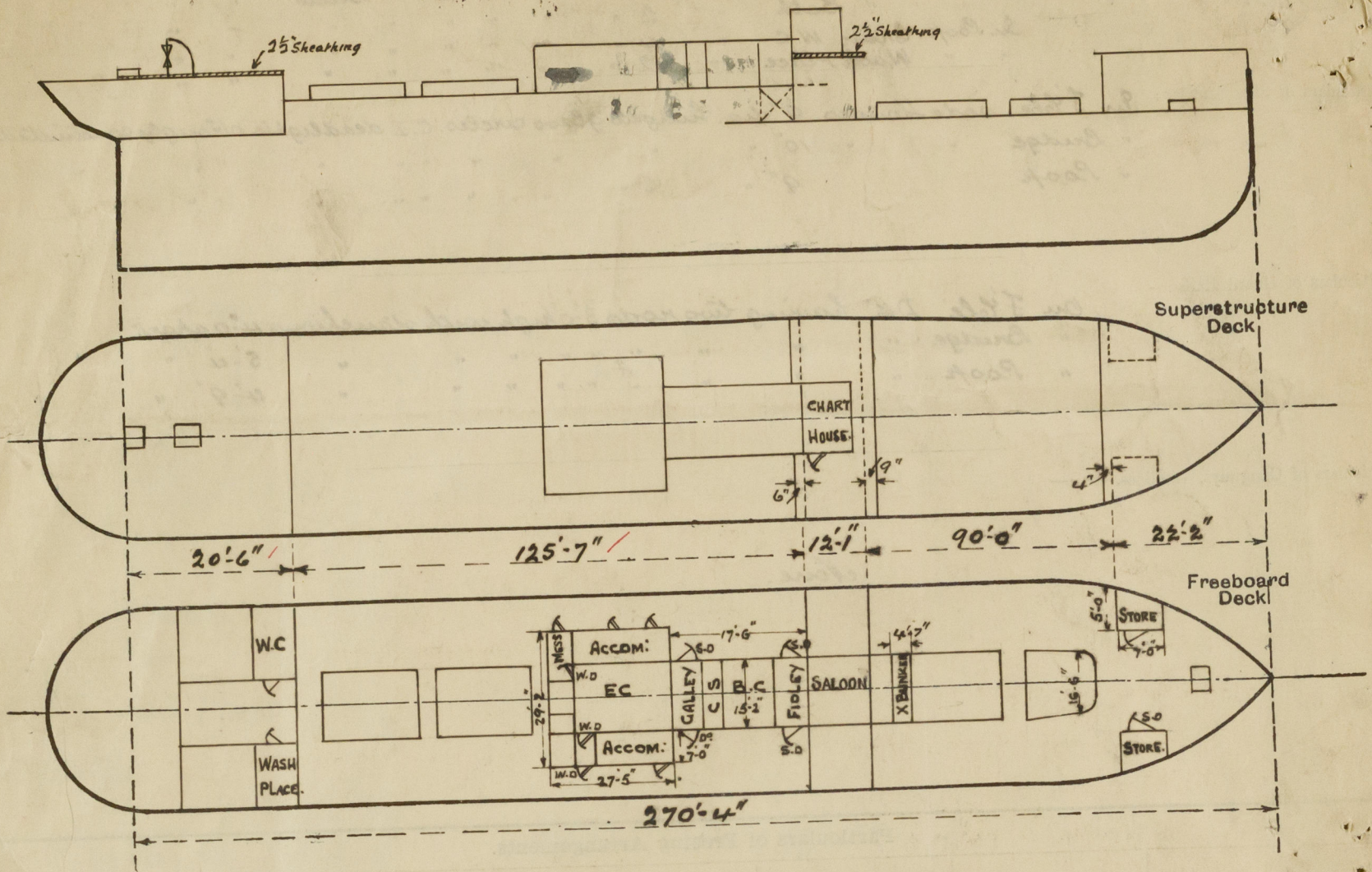
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead		36"	4" x 3" x 36" L	2'-9"	Bkls: T & B.	none		7'-1" ✓
Raised Quarter Deck Bulkhead ...		36"	6" x 3" x 36" L	2'-7½"	"	none		4'-3" ✓
Bridge, After Bulkhead		36"	" " "	" "	"	none		2'-9" ✓
Bridge, Forward Bulkhead	18' x 44"	36"	7" x 3" x 44" B.A.	2'-1½"	"	none		7'-0" ✓
Forecastle Bulkhead SIDE HOUSES.		32"	3" x 3" x 32" L	2'-0"	—	S.O. 4'-3" x 22" x 32"	18"	7'-1" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...		32"	3" x 3" x 32" L	2'-7"	Bkls: Top	M.O. 4'-3" x 22" x 1½"	18"	6'-10" ✓
Exposed Machinery Casings on Superstructure Decks						S.O. " " 32"	18"	
Machinery Casings within Superstructures 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	Glass circles no openings
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	no openings
Bridge, Forward Bulkhead	Hinged glass circles no openings.
Forecastle Bulkhead	Open F'ble. Steel doors to Paint & Lamp Store. Open both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Steel doors to Fridley. Wood doors to Engine Room
Exposed Machinery Casings on Superstructure Decks	enclosed by steel deckhouse.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

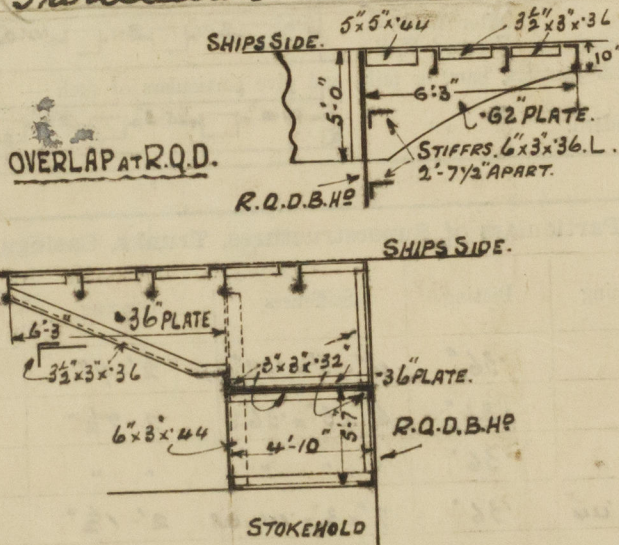
Cemenco

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:—

Particulars taken whilst vessel was afloat.



Builder's name and yard number

J. L. Thompson & Son Ltd. Sunderland

Names of sister ships

Owners

Meadow S. S. Co. Ltd.

Fee £

9 : 7 : 0
Expenses 8-8

Received by me

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