

Reg. 9 attached

B.T. COPY

CARDIFF.

49,694

Index. No. 30711
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

~~Not a National Grange~~~~and Pearlstone & London~~
 Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
 having **POOP, BRIDGE & FORECASTLE**
Port of Survey **CARDIFF**Date of Survey **June 4th 1932**Name of Surveyor **W. E. Marlborough**Particulars of Classification **+100 A.I.***Good for oil fuel 5, 24 20.*
 (Type of Superstructures.)
 Ship's Name **PEARLSTONE CASTELBIANCO**
~~OVINGDEAN GRANGE~~
~~(ex "ZAPALA")~~
 Nationality and Port of Registry **BRITISH LONDON**
 Official Number **144656**
 Gross Tonnage **4895**
 Date of Build **1924**
5 mths

 Moulded Dimensions: Length **399.54** Breadth **51.45** Depth **29.45**
 Moulded displacement at moulded draught = 85 per cent. of moulded depth **10378** tons
 Coefficient of fineness for use with Tables **787**

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 29.45	(a) Where D is greater than Table depth (D - Table depth) R = 9.42 ✓	Moulded Breadth (B) 51.45
Stringer plate (.50) .39 ... .04	(29.78 - 26.64) 3 = + 9.42 ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{12 \times 51.45}{50} = \frac{12 \times 12.42}{50} = 12.42$
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 = 3.14	Ship's Round of Beam = 13.00
Depth for Freeboard (D) = 29.78	If restricted by superstructures	Difference .58
		Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times (1 - \frac{S_1}{L}) = \frac{.58}{4} (1 - \frac{.5912}{1}) = -.08$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	33.00	33.00	4.45		33.00
" overhang ...	.33	.16			.16
R.Q.D. enclosed ...					
" overhang ...	108.36				
Bridge enclosed ...	112.00	108.36	4.45		108.36
" overhang aft ...	2.33	4.42			4.42
" overhang forward ...	5.89				
F'cle enclosed ...	41.38	41.38	4.45		41.38
" overhang ...	✓				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	188.96	187.32			187.32

 Standard Height of Superstructure **7.445** ✓
 " " R.Q.D.
 Deduction for complete superstructure **41.97** ✓
 Percentage covered $\frac{S}{L} = \frac{188.96}{399.54} = 47.29\%$
 " $\frac{S_1}{L} = \frac{187.32}{399.54} = 46.88\%$
 " $\frac{E}{L} = \frac{187.32}{399.54} = 46.88\%$ ✓
 Percentage from Table, Line A.
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. **33.24.34**
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = $\frac{.3334}{.2934} \times 41.97 = \frac{.3334}{.2934} \times 41.97 = -12.31$
13.99

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	49.95	1	49.95	63.5	63.50	1	63.50
$\frac{1}{2}$ L from A.P. ...	22.22	4	88.88	27.25	27.25	4	109.00
$\frac{3}{8}$ L " ...	5.44	2	10.88	6.79	6.79	2	13.58
Amidships ...		4				4	
$\frac{3}{8}$ L from F.P. ...	10.99	2	21.98	13.29	13.29	2	26.58
$\frac{1}{2}$ L " ...	44.45	4	177.80	53.32	53.32	4	213.28
F.P. ...	99.90	1	99.90	119.00	119.00	1	119.00
Total ...			449.49				544.94

 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 = $\frac{57.23}{399.54} = .143$
 " aft of " = $\frac{54.44}{399.54} = .137$

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{449.49 - 544.94}{18} \left(.75 - \frac{.2364}{1} \right) = -2.72$ ✓
 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.

 Ft.
 Depth to Freeboard Deck = **29.78**
 Summer freeboard = **5.94.79**
 Moulded draught (d) = **23.84**
23.99

 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **5.96 : 6"**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

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 ...	9.42	
Deduction for superstructures ...		13.99
Sheer correction ...		2.72
Round of Beam correction ...		.08
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	9.42	16.79
		7.37

Summer Freeboard = **71.29 69.61**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 " " ...	6"	Winter " " ...	6 - 5 1/2 3 1/2
Winter North Atlantic Line " " ...		Winter North Atlantic " " ...	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS																		
Freeboard Deck * Bridge Deck * Freeboard Deck →																		
Description of Hatchway			...	...	...	No 1	No 2	No 3	No 4	No 5	No 6						
Dimensions of Hatchway			...	...	...	29'3"x18'0"	32'8"x18'0"	14'0"x18'0"	32'8"x18'0"	25'8"x18'0"	14'0"x18'0"						
COAMINGS	{	Height above Deck	...	...	...	4'3 1/2"	4'3 1/2"	3'1"	4'1"	3'4"	9"						
		Thickness	{	Sides	...	4'4"	SAME	SAME	SAME	SAME	SAME							
				Ends	...	4'4"	AS	AS	AS	AS	AS							
		Stiffeners	...	7x3x44Bx	No 1	No 1	No 1	No 1	No 1	No 1	No 1							
		Brackets, Stays	...	3 R.1	3 R.1	1 R.1	3 R.1	3 R.1	✓									
HATCH BEAMS	{	Number	...	...	...	5	6	2	6	5	2						
		Spacing	...	4'10 1/2"	4'8"	4'8"	4'8"	4'3 1/4"	4'8"									
		Scantling and Sketch	{	Sketch	...	4x3x44	SAME	4x3x44	SAME	4x3x44	4x3x44							
				PLATE	AS	PLATE	AS	PLATE	PLATE									
		Bearing Surface	...	16x10x36	No 1	15x9x36	No 1	15x9x36	15x9x36									
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.						
		Thickness	...	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"									
		How fitted	...	F.Y.Q.	F.Y.Q.	F.Y.Q.	F.Y.Q.	F.Y.Q.	F.Y.Q.									
		Bearing Surface	...	3.4x8 3/8"	3.4x8 3/8"	3.4x8 3/8"	3.4x8 3/8"	3.4x8 3/8"	3.4x8 3/8"									
		Spacing of Cleats	...	24"	24"	22"	24"	24"	24"									
Number of Tarpaulins			...	...	...	3	3	3	3	3	3						
*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/>																		
Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/>																		
Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/>																		
Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/>																		

Particulars of fiddle, funnel and ventilator coamings:—

*Fiddle, Funnel Ventilator Coamings in efficient condition
 Engine Room Skylight of steel strongly constructed
 Stokeshold Gratings covered by strong steel hinged storm covers.*

Particulars of Flush Bunker Scuttles:—

NONE

Particulars of Companionways:—

NONE

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

*Fore Well 8 Vents 18" dia. Coamings 36" high x 34" dia.
 After " 8 " " " " "
 Bridge Deck 4 Gooseneck Vents 6" above Deck to Monch 6" dia.*

VENTILATORS CONSTRUCTED IN ACCORDANCE
 WITH RULE REQUIREMENTS
 COAMINGS CLOSED WITH WOOD PLUGS
 AND CANVAS COVERS

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

*Pooh Deck 1 Air pipe 3 1/2" dia W. 1 1-2" high from Fore Peak
 After Well 2 " 3" " 2'9" " Double Btm Tanks
 " 2 " 3" " 2-6 " " "
 Fore Well 2 " 3" " 2'10" " " "
 " 2 " 3 1/2" " 1-6 " " "
 " 1 " 2 1/2" " 1-6 " " "*

*Bridge Deck 2 Air pipe 3" dia W. 2'10" high from double Btm Tanks
 2 " 3" " 2'6" " " "
 2 " 3" " 2'4" " " "
 2 " 3 1/4" " 1'10 1/2" " " "
 2 " 3" " 1'9" " " "*

*all Gooseneck Tops measured to Monch
 No Sniffing hole or closing arrangements provided
 Efficient closing appliances
 provided for all air pipes.*

Particulars of Gangway Cargo and Coaling Ports:—

NONE



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers Fore well 1 P/S Inway of Stringer Bar led above Freeboard Deck
 " " 1 " Pipe scupper 5" dia " below "
 " Aft " 1 " " 5" " " "
 " " 2 " Inway of Stringer Bar " above "
 Sanitary Discharge pipes, 1 P/S Soil Pipe led above Freeboard Deck storm valves fitted POOP SPACE
 1 P/S " " " " " BRIDGE SPACE

Particulars of Side Scuttles:—

None below Freeboard Deck
 In Poop Crew space of substantial construction and fitted with hinged Deadlights.


Particulars of Guard Rails:—

Poop Deck 3'-3" high, 3 Rails, Stanchions 5'-0" apart
 Bridge " 3'-3" " " " 4'-10" " on after end only
 Deck " 3'-1" " " " 5'-0" " Sides & front
 Bridge Deck Bulwark 3'-3" high at sides and short piece on fore end strongly constructed.

Particulars of Gangways, Lifelines, etc.:—

Efficient lifelines provided in after wells
 on fore & starboard sides
 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	112'-0"	4'-0"	4'-0" x 1'-6" 	8	48.0	22.4
Forward Well	101'-2"	4'-0"	4'-0" x 1'-6" "	4	42.0	20.2

State position of each freeing port } After Well:— 13'-3, 25'-6, 37'-0, 49'-0, 61'-7, 85'-9, 96'-6 Measured from Bridge B's 12" above Deck
 (F. and A. position and height above deck edge) } Forward Well:— 14'-0, 27'-0, 39'-0, 51'-0, 62'-0, 74'-0, 86'-6 " " " " " "
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 Bar

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	2'-9" x .40	.40	1/2" x 3" x .42 Ba	31	BRACKETS TOP & BOTTOM	4'-10" x 2'-1" 5'-0" x 2'-1"	18"	
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ... ..	.34	.34	3" x 3" x .32	36	✓	5'-8" x 3'-11" 4'-11" x 2'-2"	19"	
Bridge, Forward Bulkhead	3'-0" x .44	.36	9" x 3" x .42 Ba	30"	BRACKETS TOP & BOTTOM	5'-0" x 2'-6"	18"	
Forecastle Bulkhead	3'-0" x .32	.30	3" x 3" x .28	30	✓	5'-11" x 4'-0"	18"	
Trunk, Aft	✓							
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks	2'-8" x .40	.32	3" x 3" x .32	32"	BRACKETS TOP	4'-10" x 2'-1" 5'-0" x 2'-3" 5'-0" x 2'-1"	1'-3" 1'-6" 1'-6"	4'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	2'-3" x .40	.36	"	"	✓	5'-5" x 1'-11"	1'-6"	✓
Deckhouses on Flush Deck Ships ...	✓							

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

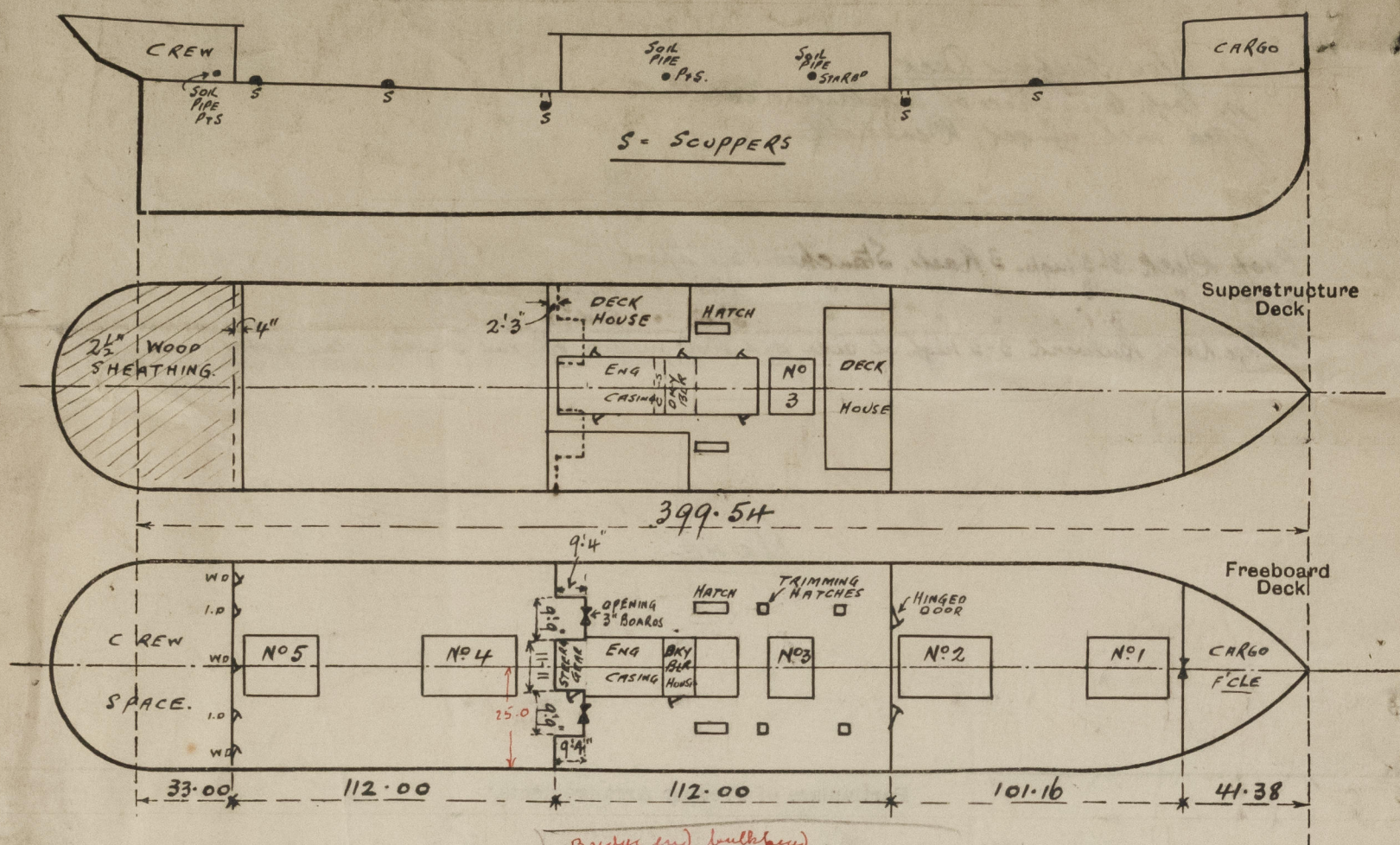
Poop Bulkhead	2 Iron Doors & 3-1 3/4" Hard wood Doors all worked both sides
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead	2 openings with Rivetted Channels 3" Boards, 1 Iron Door worked both sides To Steering Engine
Bridge, Forward Bulkhead	2 Hinged Iron Doors secured by 6 Iron Dogs, opens one side
Forecastle Bulkhead	1 opening with Rivetted Channels 3" Boards
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	3 Iron Doors worked both sides 2-1 7/8" Hard wood Doors to Eng R ^m worked both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	1 Iron Door worked both sides
Deckhouses on Flush Deck Ships ...	✓



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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:—



Bridge end bulkhead

$$9.75 \times 9.33 = 3.64$$

$$25.0$$

$$112.0$$

$$- 3.64$$

$$108.36$$

$$112.00$$

$$2.25$$

$$114.25$$

$$108.36$$

$$5.89 \text{ OH}$$

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

Small Hatches

Freeboard Deck inside of Bridge

Bunker Hatch 11'8" x 3'0" wide, 9' x 3' x 40 lb Coaming, 3" Rest Bar, cleats 22 apart, 3" covers 20 Tarps 1 P x 15

Trimming Hatch 2'4" x 2'11 1/2", 9" high Coaming plate 3/4" Foundation angle 3 x 3 x 3/4, 3" Rest Bar, 2 3/4" covers, 2 Tarps, cleats 2'5" x 1'8" 1 P x 15

Bridge Deck 11'5" x 2'10", 2'4" high Coaming 40, 3" Rest Bar, 2 3/4" covers, cleats 24", 2 Tarps 1 P x 15

Coaling Top 18'6" x 4'11", 6" high Coaming plate 3/4" Foundation angle 3 x 3 x 3/4, 3" Rest Bar, 2 3/4" covers, 2 Tarps, cleats 24"

$$\text{Load ship} = 399.54 \times 52.0 + 24.25 \times 783$$

$$11260$$

$$8250$$

$$3010 \text{ L.W.}$$

$$85\% \text{ DM} = 22.01$$

$$\text{hull} = .23$$

$$22.54 = 22 - 6 1/2$$

$$22.0 = 7160$$

$$\text{L.W.} = 3010$$

$$6 1/2 = 260$$

$$10430$$

$$\text{hull} = 52$$

$$10378$$

The following information was received on Board

Draft	Deadweight
24'3"	8250 Tons T.P.I. 40.0
24'0"	8120
23'0"	7640
22'0"	7160
21'0"	6680
20'0"	6160

This vessel has been measured afloat.

Builder's name and yard number

Lithgow Ltd. Port Glasgow Yard No 454

Names of sister ships

Owners

B. Agnes Great Southern Railway Co Ltd. & A. Roland & Co Ltd Managers

Fee £

12 : 15 : 0

Received by me



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