

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Raised Quarter Deck & Forecastle.

Port of Survey Newcastle-on-Tyne

Date of Survey 26th November 1932

Name of Surveyor Alex E. Stevenson

Particulars of Classification +100A.1.

S.S. M. No. 3-9.27
S.S. M. No. 1-32

Ship's Name

PERTERSONIAN

(Type of Superstructures.)

Nationality and Port of Official Number
Registry
British 133570
Newcastle Glasgow

Gross Tonnage

315

Date of Build

1915-3.

Moulded Dimensions: Length 135.0

Breadth 23.5

Depth 11.25

Moulded displacement at moulded draught = 85 per cent. of moulded depth

648

tons

Coefficient of fineness for use with Tables

.748

Depth for Freeboard (D)

Moulded depth ... 11.25

Stringer plate03

Sheathing on exposed deck

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) =

11.28

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R =

$(11.28 - 9.00) 1.038 = + 2.37$

(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) 23.5

Standard Round of Beam = $\frac{B \times 12}{50} = 5.64$

Ship's Round of Beam = 5.75

Difference .11

Restricted to ✓

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.11}{4} \times .4468 = -.01$

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 ...	54.75	54.75	3'-6"	✓	54.75
overhang ...					
Bridge enclosed ...					
overhang aft ...					
overhang forward ...					
W.C. enclosed ...	18.87	18.87	7'-3" to wood dk.	✓	18.87
overhang ...	1.06	1.06			1.06
Trunk aft ...					
forward ...					
Tonnage opening aft ...					
forward ...					
Total ...	75.75	74.68			74.68

Standard Height of Superstructure 6.00

R.Q.D. 3.233

Deduction for complete superstructure 19.50

Percentage covered $\frac{S}{L} = 56.11\%$

$\frac{S_1}{L} = 55.32\%$

$\frac{E}{L} = 55.32\%$

Percentage from Table, Line A. 39.45%
(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 = $19.50 \times .3945 = - 7.69$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	23.50	1		23.50	21	21.00	1		21.00
$\frac{1}{2}$ L from A.P. ...	10.46	4		41.84	8.4	8.29	4		33.16
$\frac{3}{4}$ L " ...	2.59	2		5.18	2	2.07	2		4.14
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...	5.17	2		10.34	5.2	5.33	2		10.66
$\frac{1}{2}$ L " ...	20.91	4		83.64	21.2	21.33	4		85.32
F.P. ...	47.00	1		47.00	49	49.00	1		49.00
Total ...				211.50					203.28

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{8.22}{18} \left(.75 - \frac{2805}{2805} \right) = + .21$

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 = 11.28

Summer freeboard = .77

Moulded draught (d) = 10.51

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 2.63

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 Fresh Deck (if required)

Correction for coefficient $\frac{.68 + .748}{1.36} = \frac{1.428}{1.36}$

Depth Correction ... 2.37

Deduction for superstructures ... 7.69

Sheer correction21

Round of Beam correction01

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

2.58 7.70 - 5.12

Summer Freeboard = 9.16

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 0'-9 1/4"

Tropical Fresh Water Line above Centre of Disc ...	
Fresh Water Line " " ...	
Tropical Line " " ...	
Winter Line below " " ...	2 3/4"
Winter North Atlantic Line " " ...	

Tropical Fresh Water Freeboard ...	
Fresh Water " " ...	
Tropical " " ...	
Winter " " ...	
Winter North Atlantic " " ...	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
on Fbd. dk. →									
Description of Hatchway	...	...	N ^o 1	N ^o 2					
Dimensions of Hatchway	...	...	15'9" x 13'0"	22'9" x 13'0"					
COAMINGS	Height above Deck	...	31"	31"					
	Thickness	{ Sides	40"	46"					
		{ Ends	36"	40"					
	Stiffeners	...	6" x 3" BA	6" x 3" BA					
	Brackets, Stays	...	—	—					
HATCH BEAMS	Number	...	2	4					
	Spacing	...	5'-3"	4'-6 1/2"					
	Scantling and Sketch	...							
	7/8" plate	23 1/4" x 34"	21 1/4" x 34"						
	3/4" angles	3' x 3' x 40"	3' x 3' x 40"						
	Bearing Surface	...	3 1/2"	3 1/2"					
FORE AND AFTERS	Number	...	none	none					
	Spacing	...							
	Unsupported Lengths	...							
	Scantling* and Sketch	...							
	Bearing Surface	...							
HATCH COVERS	Material	...	w.p.	w.p.					
	Thickness	...	5"	5"					
	How fitted	...	fta.	fta.					
	Bearing Surface	...	3"	3"					
Spacing of Cleats	...	...	24"	24"					
Number of Tarpaulins	...	...	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 gratings protected by strong steel hinged covers.
 Funnel & fiddle ventilators in efficient condition.
 Skylights to ER consist of pressed steel hinged flaps (each with large bull's eye light).
 coamings 2" above fiddle top.

Particulars of Flush Bunker Scuttles:—

on R.A.D. 2 off, of cast iron strongly constructed, fitted with bayonet joints.

Particulars of Companionways:—

Entrance to accommodation under fore end of R.A.D. by open stairway from Wheel House.
 (wheel house of steel, with hinged teak panelled doors (1 3/8" frame, 1/2" panel), 4'6" x 1'10", sills 15")
~~Securing appliances of doors require overhauling.~~

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

on F'de deck.	1 off.	12" dia.	coam 30" x 34"	led to hold.	
on Freebd. dk. in well.	1 "	12 "	" 30" x 30 "	" "	
" R.A.D.	2 "	6 "	" 21" x 25"	led to accom ² under fore end R.A.D.	

Ventilators constructed in accordance with rules.
 Coamings closed with wood plugs & canvas covers.

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

on F'de d. dk.	1. C.I.G.N.	2 1/2" dia x 9"	to opening, from fore peak.	
on Freebd. dk. in well.	1 "	2 1/2" " x 9"	from double bottom. (under f'de centre overhang).	
on R.A.D.	1 "	2 1/2" " x 9"	from aft peak.	

Remainder fitted with screw down metal plugs.

wood plugs as no closing appliances

Particulars of Gangway Cargo and Coaling Ports:—

none



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Particulars of Scuppers and Sanitary Discharge Pipes:—

w.c. discharge from F'de, Port side, discharging thro. ships side below Freeboard deck, with Storm Valve at ships side.

RETAIN

Particulars of Scuttles:—

In F'de with hinged deadlights.

Particulars of Guard Rails:—

Steel bulwarks on Freebd. dk. in well & on R.Q.D., 3'-6" high, efficiently constructed & supported.

Guard rails on F'de 3'-0" high, having 2 rods & stanchions 4'-0" apart.

Particulars of Gangways, Lifelines, etc.:—

none (crew in F'de).

Provision made for rigging lifelines, port and starboard from bridge & forecabin.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Forward Well R.Q.D.	54'-9"	3'-6"	2'-6" x 1'-3"	3	9.575	12
Forward Well	59'-3"	3'-6"	$\left\{ \begin{array}{l} 2'-6" \times 1'-6" \\ 2'-6" \times 1'-3" \end{array} \right.$	$\left\{ \begin{array}{l} 1 \\ 3 \end{array} \right.$	13.125	12.4

State position of each freeing port:—
 F. and A. position and height above deck edge:—
 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.

After Well:— 16'-3", 29'-3" & 40'-0" from R.Q.D. bhd.
 Forward Well:— 1'-6", 15'-3", 32'-3", 44'-0" from R.Q.D. bhd.
 on R.Q.D. 2 Horizontal rods.
 in forward well, 1 Horiz. rod & hinged steel shutter.

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								3'-6"
Raised Quarter Deck Bulkhead	-	32"	on fore side, bracket P/S to hatch coaming. aft side not accessible.					
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	-	25"	2 1/2" x 2 1/2" x 30"	36"	-	4'-6" x 1'-10" (3)	18"	7'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	32"	25"	2 1/2" x 2 1/2" x 28"	30"	Plts. at top	4'-6" x 1'-10" (4)	16"	6'-10"
Exposed Machinery Casings on Superstructure Decks								
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships								

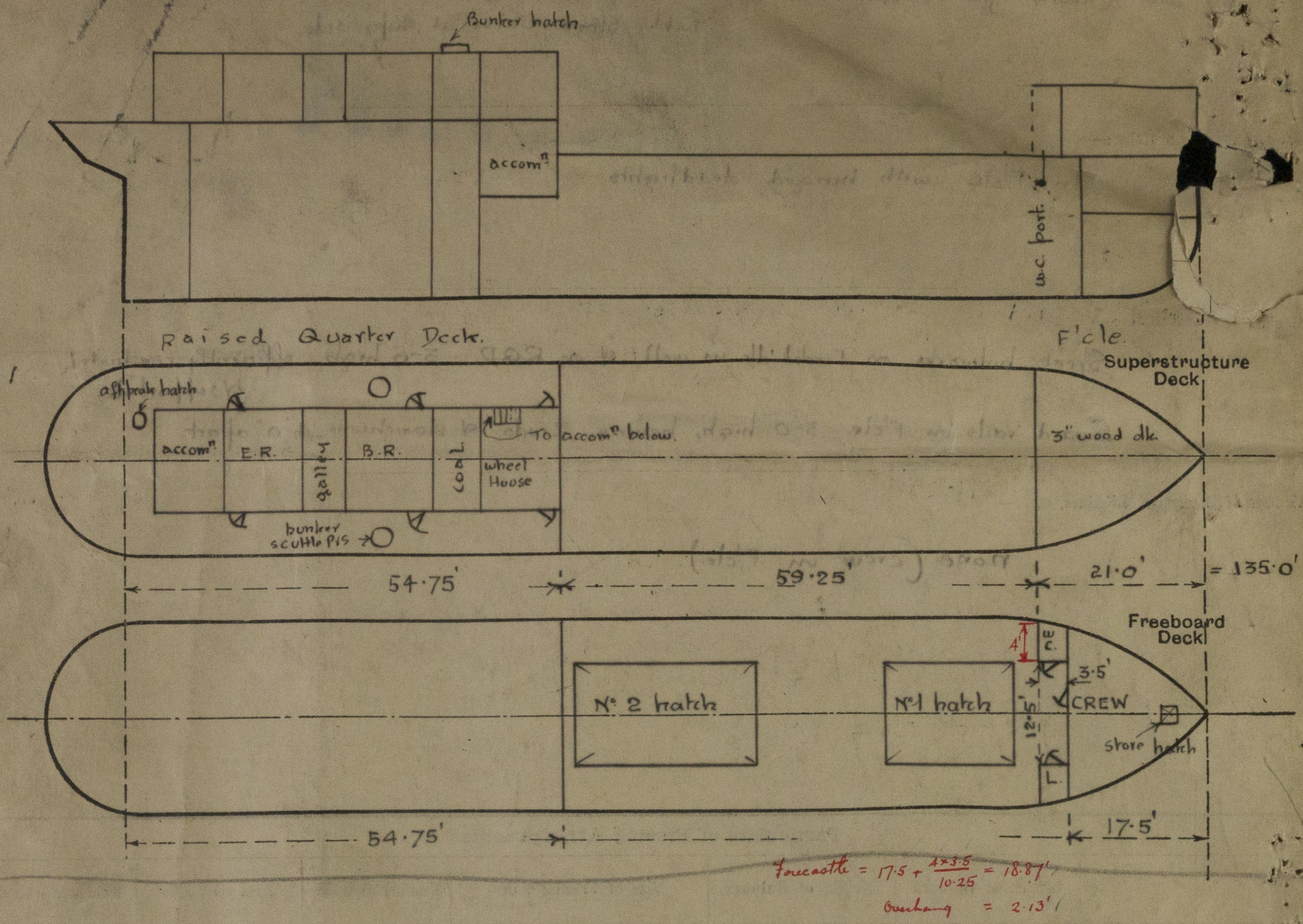
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

No openings
 Hinged steel doors. Securing appliances require overhauling.
 Two piece hinged steel doors. Securing appliances require overhauling.

Pattersonian

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:— Timber assignment not required.
Vessel surveyed afloat for freeboard only.

Builder's name and yard number J. P. Rennoldson & Sons Ltd. South Shields.

Names of sister ships

Owners Smith, Patterson & Co. Ltd.

Fee £ 5 : 2 : 0 Received by me

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