

WRECK SECTION

Cloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. 101093

Computation of Freeboard for Steamer, Sailing Ship, Tugboat

having *Raised Quarter Deck, Bridge House and Forecastle.*Port of Survey *Bangor*Date of Survey *19th Sept. '32*(Type of Superstructures.) *Depth 21.11.32*

Ship's Name

PENRHYN

Nationality and Port of Registry

*British
Bangor*

Official Number

*69464
101755*

Gross Tonnage

*355
354*

Date of Build

1895-8

Name of Surveyor

H. R. Howells

Moulded Dimensions: Length *145'* Breadth *24'* Depth *11' 2"*
 Moulded displacement at moulded draught = 85 per cent. of moulded depth *638* tons
 Coefficient of fineness for use with Tables *.676* (Lowest in Tables 68)

Particulars of Classification *100 A1**S.S. Bug 2nd No. 3-6-21**S.S. Bug No. 2-29*

Depth for Freeboard (D)

Moulded depth ... *11' 2 1/2"*Stringer plate ... *7/16"*

Sheathing on exposed deck

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

Depth for Freeboard (D) = *11.21*

Depth correction

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

$$(11.21 - 9.67) 1.115 = + 1.72"$$

(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) *24'*

$$\text{Standard Round of Beam} = \frac{B \times 12}{50} = 5.76"$$

$$\text{Ship's Round of Beam} = 8"$$

$$\text{Difference} = 2.24"$$

Restricted to

$$\text{Correction} = \frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{2.24}{4} \times .3896 = - .22"$$

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 ...	<i>54'</i>	<i>54.00</i>	<i>3' 6"</i>		<i>54.00</i>
" overhang ...	✓				
Bridge enclosed ...	<i>10' 6"</i>	<i>10.50</i>	<i>7' 0"</i>		<i>10.50</i>
" overhang aft ...	✓				
" overhang forward	✓				
Fore enclosed ...	<i>24'</i>	<i>24.00</i>	<i>6' 0"</i>		<i>24.00</i>
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
Tonnage opening aft ...	✓				
" forward	✓				
Total ...	<i>88.50</i>	<i>88.50</i>			<i>88.50</i>

Standard Height of Superstructure *6.00*" " R.Q.D. *3.30*Deduction for complete superstructure *20.50*

$$\text{Percentage covered } \frac{S}{L} = 61.04\%$$

$$\frac{S_1}{L} = 61.04\%$$

$$\frac{E}{L} = 61.04\%$$

Percentage from Table, Line A. *47.77%*

(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)

$$\text{Deduction} = 20.50 \times .4777 = - 9.79"$$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>24.50</i>	1		<i>24.50</i>	<i>30"</i>	<i>30.00</i>	1		<i>30.00</i>
1/4 L from A.P. ...	<i>10.90</i>	4		<i>43.60</i>	<i>8 1/2"</i>	<i>7.75</i>	4		<i>31.00</i>
2/4 L " ...	<i>2.70</i>	2		<i>5.40</i>	<i>0</i>	<i>-1.25</i>	2		<i>-2.50</i>
Amidships ...	<i>✓</i>	4		<i>✓</i>	<i>3 1/2"</i>	<i>✓</i>	4		<i>✓</i>
3/4 L from F.P. ...	<i>5.40</i>	2		<i>10.80</i>	<i>13"</i>	<i>10.30</i>	2		<i>20.60</i>
1/4 L " ...	<i>21.80</i>	4		<i>87.20</i>	<i>29"</i>	<i>28.40</i>	4		<i>113.60</i>
F.P. ...	<i>49.00</i>	1		<i>49.00</i>	<i>53"</i>	<i>53.00</i>	1		<i>53.00</i>
Total ...				<i>220.50</i>					<i>245.70</i>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{25.20}{18} \left(\frac{.75 - .3052}{2} \right) = - 0.62"$$

If limited on account of midship superstructure.

$$.62 \times \frac{.045}{.200} = - .14"$$

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

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *11.21*Summer freeboard = *.54*Moulded draught (d) = *10.67*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *2.67 = 2 3/4"*Addition for Winter North Atlantic Freeboard (if required) = *2"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 730$$

Tons per inch immersion at summer load water line

$$T = 6.25$$

Deduction = $\frac{\Delta}{40T}$ inches

$$= \frac{730}{40 \times 6.25} = 2.92 = 3"$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<i>1.72</i>	<i>-</i>
Deduction for superstructures ...	<i>-</i>	<i>9.79</i>
Sheer correction ...	<i>-</i>	<i>.14</i>
Round of Beam correction ...	<i>-</i>	<i>.22</i>
Correction for Thickness of Deck amidships ...	<i>-</i>	<i>-</i>
Other corrections, scantlings, etc. ...	<i>-</i>	<i>-</i>
	<i>1.72</i>	<i>10.15</i>

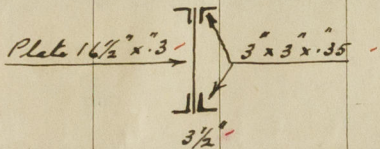
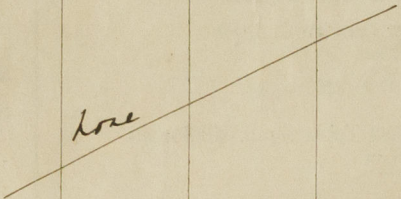
Summer Freeboard = *6.46"*

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

Tropical Fresh Water Line above Centre of Disc ...	<i>5 3/4"</i>	Tropical Fresh Water Freeboard ...	<i>0' - 6 1/2"</i>
Fresh Water Line " " ...	<i>3"</i>	Fresh Water " " ...	<i>0' - 0 3/4"</i>
Tropical Line " " ...	<i>2 3/4"</i>	Tropical " " ...	<i>0' - 3 1/2"</i>
Winter Line below " " ...	<i>2 3/4"</i>	Winter " " ...	<i>0' - 3 3/4"</i>
Winter North Atlantic Line " " ...	<i>4 3/4"</i>	Winter North Atlantic " " ...	<i>0' - 9 1/4"</i>
			<i>0' - 11 1/4"</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			MAIN								
Dimensions of Hatchway			41'7" x 13'10"								
COAMINGS	{	Height above Deck	37"								
		Thickness	Sides	45"							
			Ends	45"							
		Stiffeners	7" x 3" x .45 B.A. sides & aft. end.								
		Brackets, Stays	3 - 5 1/2" x 3" x .3 each side. 3 bracket Runs for end.								
HATCH BEAMS	{	Number	7								
		Spacing	62"								
		Scantling and Sketch									
			Bearing Surface	3 1/2"							
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch									
		Bearing Surface									
HATCH COVERS	{	Material	W. wood.								
		Thickness	2 1/2"								
		How fitted	F. & A.								
		Bearing Surface	3"								
Spacing of Cleats			20"-22 1/2"								
Number of Tarpaulins			2								
<p>*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/></p> <p>Are battens and wedges efficient and in good condition? <i>Yes.</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>Yes.</i></p> <p>Are lashings provided in accordance with rule requirements? <i>Yes.</i></p>											

Particulars of fiddley, funnel and ventilator coamings:— *Fiddley, funnel & ventilator coamings in efficient condition.*

Fiddley gratings fitted with steel hinged covers.

Engine Room skylights of wood with wood hinged flaps.


Bunker hatch on casing top $9' \times 5' 4''$, coaming $8\frac{1}{2}'' \times 3'$, w. wood cover $2\frac{1}{2}''$ thick fitted F & A bearing surface $2\frac{1}{2}''$, cleats spaced $31''-33''$ apart, battens in order. ~~The~~ tarpaulins. one

Particulars of Flush Bunker Scuttles:— 2 (1 P. & 1 S.) 15" dia. on R. Q. Bk. bayonet joint. No chain attachment.

Particulars of Companionways :—


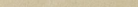
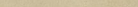
None

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

- 1 - 6" dia. coaming 15"x.2 on 7" tie dk. to crew space, measured above wood dk. Efficiency
 1 - 10" dia. coaming 40"x.25 on 7 1/2" tie dk. to hold, measured above steel dk. a
 1 - 10" dia. coaming 37"x.3 on Bridge dk. to hold. b
 2 - 4" dia. goosenecks, on Bridge dk. to accommodation  } measured above wood dk.
 4 - 5" dia. coaming 70"x.2 on R.O. dk. to crew space (clipped to dk. house), fitted with steel mushroom covers.

Efficient closing arrangements
are provided

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

- 1 - 3" dia. 7' high \approx 70' ctt. dk. to F.P. Tank  } measured above wood dk.
 2 - 2 1/2" dia. 8" high \approx 74' dk. to No. 1 D.B. Tank.  } measured above steel dk.
 2 - 2" dia. 33' high \approx 74' dk. to No. 2 D.B. Tank.  }
 No shifting holes.

Efficient closing arrangements
are provided

Particulars of Gangway Cargo and Coaling Ports :—

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Particulars of Scuppers and Sanitary Discharge Pipes:—

- Stringer scupper 6" x 4 1/2" & 4" x 3 1/2"
- 1 Sanitary discharge fitted with storm valve on shell about 4' below R.Q. br. (to crew space aft.)
- 2 Sanitary discharge aft on counter not fitted with storm valve on shell, discharging about 2' below R.Q. br. (to crew space aft.)

Particulars of Side Scuttles:—

Side scuttles in Forelle and engine casing not fitted with inside hinged deadlight

No side scuttles below 7ft. & L.Q. br.

Particulars of Guard Rails:—

Round Forelle dk. 37" high, stanchions spaced 51" apart. 2 Rails.

Particulars of Gangways, Lifelines, etc.:—

Satisfactory lifeline arrangements have been provided.

~~None fitted~~

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	54'	35"	30" x 18" 42 x 21	1 2	15 375 sq'	12 sq'
Forward Well	56'	44"	30" x 18" 42 x 21	2 2	75 sq' 19	12 sq'

State position of each freeing port } After Well: ^{Fore} 26' 9" P. 28' 7" S. 5" above deck.

(E. and A. position and height above deck edge) } Forward Well: ^{Aft} 41" 22' 0" 16"-19" above deck.

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— hinged shutters.

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	✓	✓	✓	✓	✓	✓	✓	✓
Raised Quarter Deck Bulkhead ...	✓	3'	3" x 3" x 35" side	40"	✓	none	✓	3' 6"
Bridge, After Bulkhead	✓	3'	3" x 3" x 3" side	30"	✓	none	✓	3' 6"
Bridge, Forward Bulkhead	3'	3'		30"		none	✓	7' 0"
Forecastle Bulkhead	Vertical plating 28'	3" x 3" x 35"	30"	none	2-45" x 21"	19"	6' 0"	
Trunk, Aft	✓	✓	✓	✓	✓	✓	✓	✓
Trunk, Forward	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	35'	28'	3" x 3" x 3'	30"	Bolt. 16x1	4-50" x 20" 1-55" x 20"	19" 12 1/2"	6' 6"
Exposed Machinery Casings on Super- structure Decks	✓	✓	✓	✓	from crew space aft.	✓	✓	✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	✓	✓	✓	✓	✓	✓	✓	✓
Deckhouses on Flush Deck Ships ...	35'	28'	3" x 3" x 3'	30"	Bolt. 4x1	3-50" x 20"	18 1/2"	6' 6"

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	Wood doors.
Exposed Machinery Casings on Fore- board or Raised Quarter Decks ...	Steel door opening on to deck. Wood door to crew space
Exposed Machinery Casings on Super- structure Decks	✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	Wood doors. manipulated from both sides (locks).

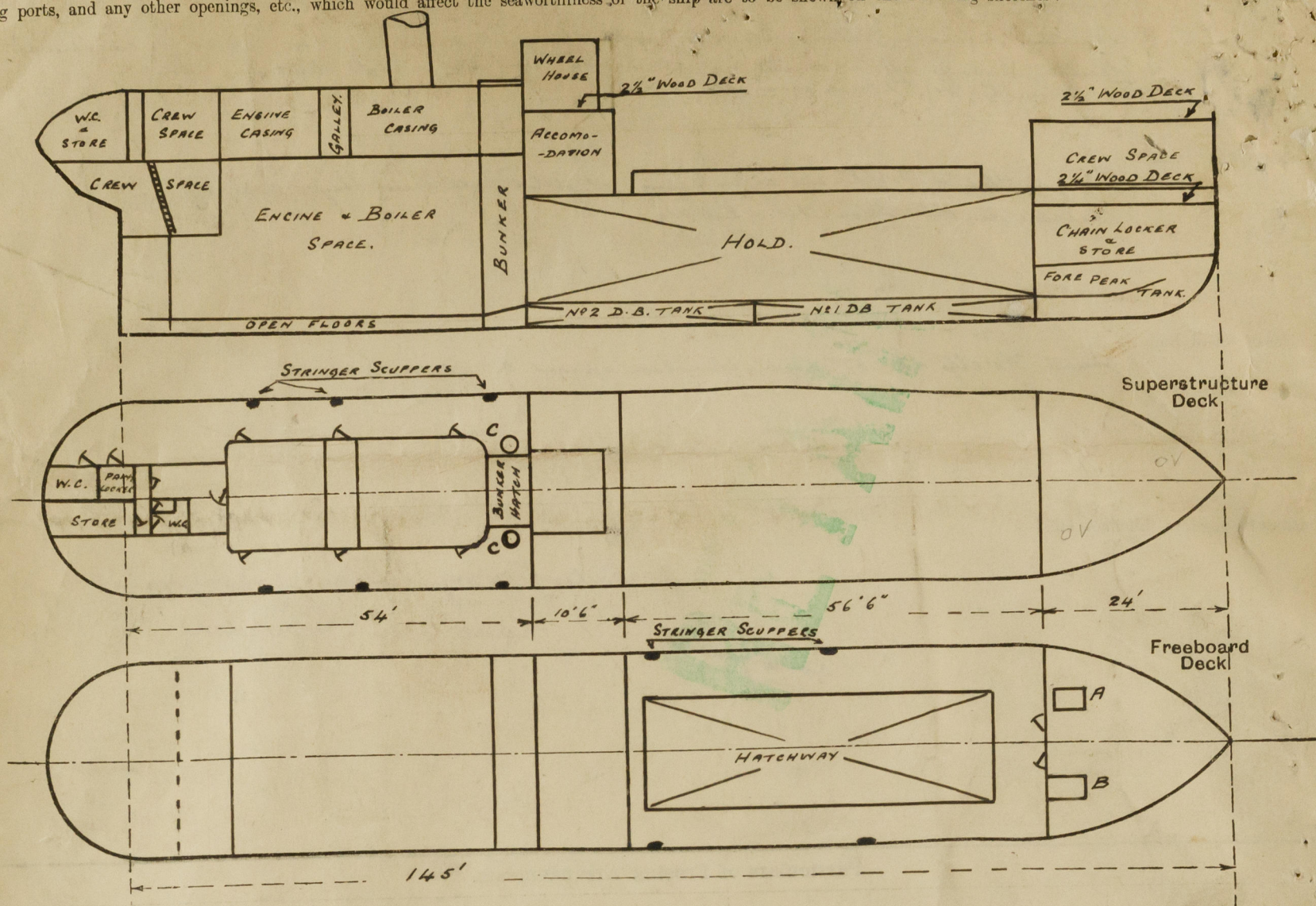


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness, of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



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

A & B. Manholes to chain locker & store $32\frac{1}{2} \times 21$ and $35\frac{1}{2} \times 21$, no coaming, fitted with w. wood covers $2\frac{1}{4}$ thick.

C. Flush bunker scuttles.

NOTE:— Particulars for this report taken whilst vessel afloat.

Builder's name and yard number *Scott & Sons. No 113.*

Names of sister ships *S.S. "BANGOR"*

Owners *Rt. Hon. Baron Pembroke. (T. J. W. Humphreys Esq.)*

Fee £ *5* : *2* : —

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