

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
 having POOP BRIDGE & FORECASTLE

Port of Survey MIDDLESBROUGH & London

Date of Survey DEC. 31. & JAN 32. 1908
VESSEL PLACED IN DRY DOCK 11/12/22 LON

Name of Surveyors Capt B. Seaver & W. T. Hudson.

Particulars of Classification 100.A.1
S.S. Nam. No 3-4.27.
SS. Mdb. No 1-31
Carrying oil fuel Flammable 150°F. in D.B.D.T.

(Type of Superstructures.) B. of T. 12/14/20

Ship's Name <u>PENBROKESHIRE.</u>	Nationality and Port of Registry <u>BRITISH. BELFAST.</u>	Official Number <u>136349.</u>	Gross Tonnage <u>7808</u> 7821	Date of Build <u>1915. 4.</u>
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Moulded Dimensions: Length 469.5 Breadth 58.0 Depth 35.0

Moulded displacement at moulded draught = 85 per cent. of moulded depth 18,532 tons

Coefficient of fineness for use with Tables 801. ~~2610.5548~~

Depth for Freeboard (D) Moulded depth <u>35.0</u> Stringer plate $\frac{1}{2}$ " <u>.04</u> Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <u>35.04</u>	Depth correction (a) Where D is greater than Table depth (D - Table depth) R = $(35.04 - 31.30) 3 = 11.22$ (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) <u>58.0</u> Standard Round of Beam = $\frac{B \times 12}{50} = 13.92$ Ship's Round of Beam <u>14.5</u> = $\frac{14.50}{.58}$ Difference Restricted to Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.58}{4} (-2.646) = -.04$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	97.64	97.64	7.75		97.64
" overhang ...	1.36	.68	+3" P.P.		.68
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	165.67	165.67	8.0		156.67
" overhang aft ...	2.33	1.75	+3" P.P.		1.75
" overhang forward ...	3.00	1.50			1.50
Fore enclosed ...	77.60	77.60	7.75		77.60
" overhang90	.45	+3" P.P.		.45
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	348.50	345.29			345.29

Standard Height of Superstructure 7.5
 " " R.Q.D.
 Deduction for complete superstructure 42.0
 Percentage covered $\frac{S}{L} = 74.22$
 " " $\frac{S_1}{L} = 73.54$
 " " $\frac{E}{L} = 73.54$
 Percentage from Table, Line A.
 (corrected for absence of forecastle (if required))
 Percentage from Table, Line B. 67.35
 (corrected for absence of forecastle (if required))
 Interpolation for bridge less than 2L (if required)
 Deduction = 28.29

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	56.95	1		56.95	54.00	54.00	1		54.00
$\frac{1}{4}$ L from A.P. ...	25.34	4		101.36	24.10	24.10	4		96.40
$\frac{3}{4}$ L " ...	6.26	2		12.52	6.02	6.02	2		12.04
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...	12.53	2		25.06	11.50	11.50	2		23.00
$\frac{1}{4}$ L " ...	50.69	4		202.76	46.02	46.02	4		184.08
F.P. ...	113.90	1		113.90	106.00	106.00	1		106.00
Total ...				512.55					475.52

Mean actual sheer aft = Deficient
 Mean standard sheer aft

Mean actual sheer forward = Deficient
 Mean standard sheer forward

Length of enclosed superstructure forward of amidships = $> 1L$
 " " aft of " = $7.1L$

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{512.55 - 475.52}{37.03} \left(.75 - \frac{.3789}{.3789} \right) = .78$

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 = 35.25 Ft.
 Summer freeboard = 7.29
 Moulded draught (d) = 27.96

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.99 = 7"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 17,523$
 Tons per inch immersion at summer load water line
 $T = 58.4$
 Deduction = $\frac{\Delta}{40T}$ inches
 $= \frac{17,523}{2,336} = 7.5$
 $7.5 - 4.5 = 3"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	11.22	
Deduction for superstructures ...		28.29
Sheer correction78	
Round of Beam correction04
Correction for Thickness of Deck amidships ...	2.50	
Other corrections, scantlings, etc. ...		
	14.50	28.33
Summer Freeboard =	87.59	

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

Tropical Fresh Water Line above Centre of Disc ...	14.5
Fresh Water Line " " ...	7.5
Tropical Line " " ...	7
Winter Line below " " ...	7
Winter North Atlantic Line " " ...	7

Tropical Fresh Water Freeboard ...	6.1
Fresh Water " " ...	6.8
Tropical " " ...	6.8
Winter " " ...	7.10
Winter North Atlantic " " ...	7.10

Pembroke. here

Particulars of fiddle, funnel and ventilator coamings:—
 GERTINGS. ON CRIBING TOP CLOSED BY STRONG STEEL COVERS HINGED. FIDDLEY GRATING SITUATED
 ENGINE ROOM SKYLIGHT STEEL WITH STEEL FLAPS & BULL EYES. 3 FT ABOVE LOW WATERLINE.
 FIDDLEY AND FUNNEL VENTILATORS IN EFFICIENT CONDITION. ✓

NONE.

COMPANION ON FILE TO CREW SPACE STEEL 12" SILL DOOR. PAID WOOD 4'-10"x2" UNSHARPED FRAMING LINES
" " ROOF TO ESCAPE TRUNK " 9 " " PEEL 2'-6"x3 " " "

[illegible]

3 WATER TIGHT COALING DOORS IN BRIDGE SIDES, UNDER SIDE 7" ABOVE UPPER DECK. EFFICIENTLY CONSTRUCTED.
DOORS 5'-4 1/4" x 4'-0"

3 PIPE SCUPPERS IN AFTER WELL CARRIED 2'-0" BELOW UPPER DECK. —
 3 " " " FORE " " " 2'-0" " " " "
 3 " " " FROM BRIGADE SPACE 2'-10" " " " WITH W
 GALLEY ASH SHOOT. 3'-0" TO UNDER SIDE FROM UO. WATER TIGHT LID ON TOP.
 — DISCHARGES 2 OFF 5'-2" BELOW DECK, GUN METAL N.K. STORM
 ASH SHOOT. 1 OFF 5.5. 16'-0" ABOVE BASE. (BUILT)

Side Lights in Tween Decks 10" Dia 3'-0" to Under Side from Deck All Fitted with Dead Lights (Hinged)
- - - Poop Bridge Fore, Fore Front, Bridge Front Bridge End & Poop Front, 2'-10" to Underside All
Fitted with Dead Lights, (Portable)

OPEN HAND RAILS POOP & FORECASTLE 6 ROOS 48" HIGH. STANCHIONS 5'-0" APART.
" " " BRIDGE 5 " 45" " " " " "

NO GUARD RAILS ON FREEBOARD DECK BULWARK FITTED.

~~None Fitted.~~

Suitable provision is made for rigging
lifelines forward and after wards.

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	42" x 9/20	7/20	8" x 3 1/2" x 9/20 PA	27"	NO BRACKETS	2'0" x 5'0" x 5'6" 1/4" 1st 5'0" x 5'0"	18"	7'-9"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	44" x 7/20	9/20	3 1/2" x 3 1/2" x 7/20	24"	NO BRACKETS. (BULKHEADS)	3'8" x 6'0" 1/4"	18"	8'-0"
Bridge, Forward Bulkhead	50" x 4 1/4"	4'0"	4" x 3 1/2" x 6 1/4" 8 1/4" x 2 NOS.	27 1/4" - 32"	BRACKETED.	5'0" x 3'0" ✓	17"	8'-0"
Forecastle Bulkhead	42 1/2" x 9/20	5/20	3 1/2" x 3" x 7/20	24" - 35"	NO BRACKETS. (BULKHEADS)	4'0" x 5'0" 1/4"	18"	7'-9" MEAN
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	3'6" x 9/20	7/20	4 1/2" x 3" x 9/20	24" - 36"	NONE.	4'2 1/2" x 5'2" -	14"	7'-9"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	18" x 9/20	9/20	4" x 3" x 7/20	36"	NONE.	2'0" x 5'0" ✓	18"	8'-0"
Deckhouses on Flush Deck Ships ...								

Poop Bulkhead	2 OPENINGS 4'-0" WIDE 18" SILL WITH STORM BARROS IN RIVETTED CHANNELS (PORTABLE PLATES WITH BOLTS FULL HEIGHT, 3 TACKS) 18" APART. ✓
Raised Quarter Deck Bulkhead	✓ AND ONE PEEL W.T. DOOR (TOLPINE) 5'-0" x 4'-0" x 18" SILL, OPERATED FROM BOTH SIDES
Bridge, After Bulkhead	2 OPENINGS 4'-8" WIDE 18" SILL WITH STORM BARROS IN RIVETTED CHANNELS (FULL HEIGHT) ✓
Bridge, Forward Bulkhead	2. W.T. DOORS ON HINGES & TAPPLES OPENED FROM BOTH SIDES. 3'-0" x 5'-0" HIGH, 18" SILL. ✓
Forecastle Bulkhead	2. OPENINGS 4'-0" WIDE 18" SILL WITH STORM BARROS IN RIVETTED CHANNELS (FULL HEIGHT) ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks	
Exposed Machinery Casings on Super-structure Decks	7'-9" HIGH. 2 DOORS EACH SIDE FITTED WITH TAPPLES OPENED FROM ONE SIDE ONLY. (NON W.T.) ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	4'-3 1/2" x 5'-2" 1/8" DOORS OPENED FROM BOTH SIDES 18" SILLS (NON W.T.) ✓
Deckhouses on Flush Deck Ships	

