

B.T. COPY

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3 OCT 1932

WRECK BA
No. 170-3

Hull No 144

Index. No. 31658
(For London Office only.)

Apt. C.11.

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

RETAIN

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Poop, Bridge & Forecastle

Port of Survey Hull

Date of Survey Sept. 29th 1932.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
Newton Beech	British Newcastle	148139	4644	1925-10

Moulded Dimensions: Length 371.75 Breadth 54.45 Depth 29.3"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 10828 tons
Coefficient of fineness for use with Tables 797

Name of Surveyor M. Malcolm

Particulars of Classification +100A1
S.S. Nave. No. 1-30

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... 29.25	(a) Where D is greater than Table depth (D - Table depth) R = (29.29 - 24.78) 2.857 = +12.89"	Moulded Breadth (B) 51.45
Stringer plate ... 5.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50}$ = 12.35"
Leathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ none ✓	If restricted by superstructures ✓	Ship's Round of Beam = 12.5"
Depth for Freeboard (D) = 29.29		Difference .15 excess
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$ = $\frac{.15}{4} \times .5074 = -.02"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	36.9	36.75	8-0		36.75
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	108-0	108.00	8-0		108.00
" overhang aft ...	2-6	1.87			1.87
" overhang forward ...					
F'cle enclosed ...	36.30	36.50	8-0		36.50
" overhang ...	2-3				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...	183.75	183.12			183.12

Standard Height of Superstructure 7.217
" " R.Q.D. ✓
Deduction for complete superstructure 40.11
Percentage covered $\frac{S}{L} = 49.43\%$
" " $\frac{S_1}{L} = 49.26\%$
" " $\frac{E}{L} = 49.26\%$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) 35.37%
Interpolation for bridge less than 2L (if required)
Deduction = 40.11 x .3537 = - 14.1

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	47.17	1		47.17	46.0	46.00	1		46.00
1/2 from A.P. ...	20.99	4		83.96	20.6	20.54	4		82.16
1/2 " ...	5.19	2		10.38	5.8	5.13	2		10.26
Amidships ...	✓	4		✓	0	✓	4		✓
1/2 from F.P. ...	10.38	2		20.76	11.2	9.87	2		19.74
1/2 " ...	41.98	4		167.92	39.6	39.50	4		158.00
F.P. ...	94.34	1		94.34	91.0	91.00	1		91.00
Total ...				424.53					407.16

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{17.37}{18} \left(.75 - \frac{24.71}{1} \right) = +.49"$

If limited on account of midship superstructure. ✓

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 = Ft.
Summer freeboard =
Moulded draught (d) =

Deduction for Tropical freeboard and addition for
Winter freeboard = $\frac{d}{4}$ inches =
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 = $\frac{\Delta}{40 T}$ inches

Draft = T.P.I.

23-11 39.0

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{797 + 68}{1.36} = \frac{1477}{1.36}$

	+	-
Depth Correction ...	12.89	-
Deduction for superstructures ...	-	14.19
Sheer correction ...	4.9	-
Round of Beam correction ...	-	.02
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-

Summer Freeboard = 67.57

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 " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS U. Dk. in										
Description of Hatchway		Upper Dk	Bde	Upper Dk	Port Dk	Bridge	Bunker	Bunker	Bunker	Escape
Dimensions of Hatchway		No1	No2	No3	No4	No5	No6	No3	Bde	Upper Dk
COAMINGS	Height above Deck	3'-6"	3'-6"	2'-6"	3'-6"	3'-6"	2'-6"	10" BA	2'-6"	6'-3"-6"
	Thickness			.5					.4	9" BA
	Stiffeners		8" B.A.				7" BA			
	Brackets, Stays		3' dia				none			
HATCH BEAMS	Number	5	5	3	5	5	2	3		
	Spacing			even				even		
	Scantling and Sketch	20"x36"	as Not	14"x4"	20"x36"	as Not	10"x3"	18"x36"	none	none
	Bearing Surface	5"x3"x42"		5"x3"x42"	5"x3"x42"		3"x3"x42"	5"x3"x42"		
FORE AND AFTERS	Number									
	Spacing									
	Unsupported Lengths									
	Scantling* and Sketch			none			none			
HATCH COVERS	Material			WW			WW	WW	WW	WW
	Thickness			3"			3"	3"	22"	22"
	How fitted			for			for	for	for	for
	Bearing Surface			3"x5"			3"x5"	3"	22"	22"
Spacing of Cleats				24"			24"	24"	24"	18"
Number of Tarpaulins				2			2	2	2	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>Yes</i></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>rip bolts provided</i></p> <p>* Bunker hatches on upper deck in bridge space have battens <i>wedges</i> and one <i>two</i> tarpaulins each</p>										

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle, funnel & ventilator coamings in good condition.
Fiddle gratings fitted with efficient hinged steel storm covers.
Engine room sky light of steel, strongly constructed.
~~repairs are required to E.R. sky light glass.~~

Particulars of Flush Bunker Scuttles:—

— none —

Particulars of Companionways:—

Substantial steel houses at foot of each mast 16' x 15' 6" x 8' high, plating .3, stiff 4' flange & 8' B.A. spaced 27" $\frac{1}{2}$ ". One opening at after side of each house 4'-7" x 1'-11" x 19" sill, closed by lead door 1 1/2" thick, hinged with spring lock, manipulated from both sides.

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

Ice dh: 6' dia. coamings 20' high x .3 to crews accommodation holds.
To soft wells: 22" " 36' high x .4
Bridge dh: 9" to 22" dia. coamings 20" to 36" high to hold studdles.
Port dh: 9" dia. coamings 18' high to tween deck.

Ventilators constructed to Rule requirements: wood plugs & canvas covers provided.

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

Ice dh: 3" x 4" dia goosenecks, 12" x 18" high to F.P. tank.
To after wells: 22", 3" x 4" dia " 28" to 42" high to D.B.
Bridge dh: 3" x 4" dia " 24" high to D.B.
Port dh: 22" x 3" " 8" high to A.P. tank.

wood plugs means of closing is provided for air pipes.

Particulars of Gangway Cargo and Coaling Ports:—

— none —



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharge pipes in bridge tween decks to shell above upper deck with storm valve.
 Scuppers in bridge tween decks lead to shell below upper deck, bolted plate on deck
 no valve at shell but wood plug fitted at shell.
 Scuppers in wells lead to shell below upper deck with no valve, others of funnel bar type.

Particulars of Side Scuttles:—

In Tide tween decks, fitted with strong hinged deadlights.
 All side scuttles of substantial construction.
 repairs are required to some deadlights.

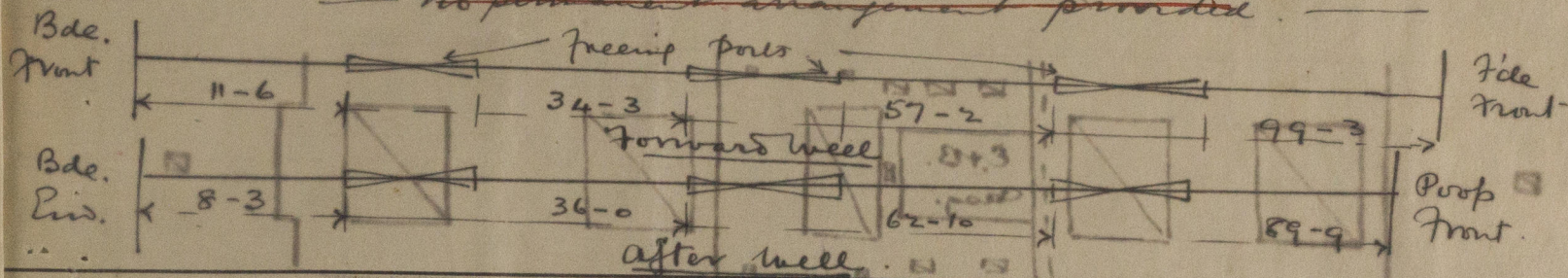
Particulars of Guard Rails:—

On Poop & Tide: 3'-6" high, 3 rod, stanchions spaced 16'-6" to 5' apart.
 Bridge: substantial steel bulwark, 3'-6" high, efficiently stayed.
 In wells steel bulwarks, 3'-5" high, substantially constructed stays.

Particulars of Gangways, Lifelines, etc.:—

Provision is made for rigging lifelines in the forward and after wells.

no permanent arrangement provided.



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	89-9	3-5	15'-0" x 10" 15'-0" x 10" 15'-0" x 10"	3	37.50	17.94 #
After Well	99-3	3-5	15'-6" x 10" 14'-0" x 10" 15'-6" x 10"	3	37.50	19.85 #

Position of each freeing port ... After Wells:—
 Position and height above deck edge ... Forward Well:—
 Whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

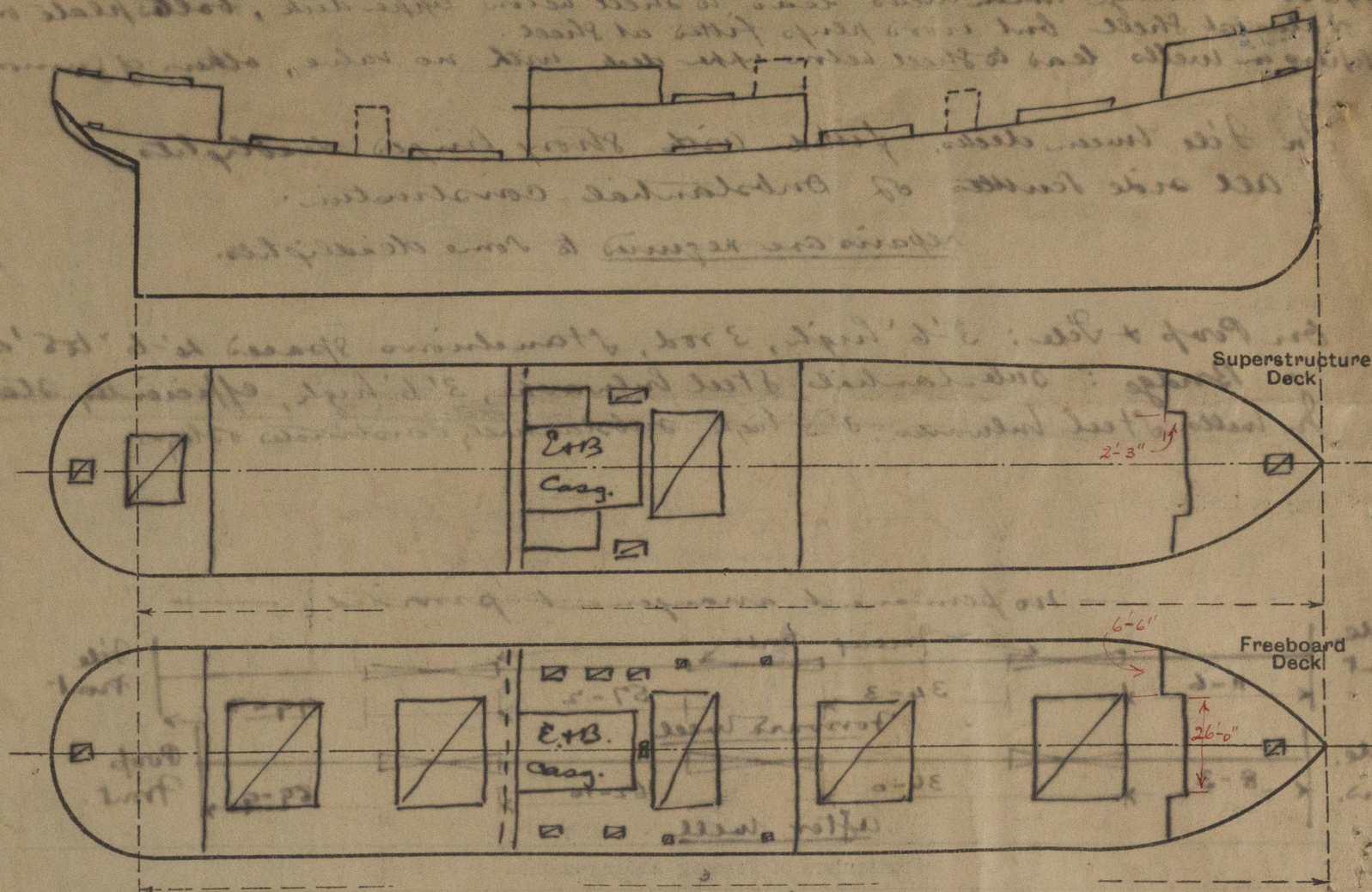
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Bulkhead	.4	.4	6 x 4 x .5	30"	none	5'-5" x 3'-0"	22"	8'-0"
Quarter Deck Bulkhead								
Bridge, After Bulkhead	.32	.32	3 x 3 x .35	36"	none	4'-6" x 3'-0"	18"	8'-0"
Bridge, Forward Bulkhead	.42	.42	8 x 3 B.A.	18"	bldts.	4'-6" x 3'-7"	24"	8'-0"
Forecastle Bulkhead	.3	.3	flayed 4"	4'-6"	none	4'-6" x 2'-0"	19"	8'-0"
Deck, Aft								
Deck, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	.3	.3	4 x 3 x .3	36"	bldts. top only	4'-6" x 2'-0"	22"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	.3	.3	4 x 3 x .3	36"	none	4'-6" x 2'-0"	22"	8'-0"
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead	Stormboard 3" thick to full height in riveted channels.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Stormboards 3" thick to full height in riveted channels.
Bridge, Forward Bulkhead	hinged steel doors with through bolts to the plating 5" apart.
Forecastle Bulkhead	Steel hinged doors, spring locks or clips, yes.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	wood hinged doors, spring locks, yes.
Exposed Machinery Casings on Superstructure Decks	Steel hinged doors, clips, yes.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel hinged doors, clips, yes.
Deckhouses on Flush Deck Ships	

Newton Beech

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo 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:—

Freeboard Survey held afloat.
No part of special Periodical Survey held at this time.

Hatch on Freeboard Deck to store:

4' x 3' : Coaming 26' x 42'
1 web 7' x 5T, bearing 22' wood covers
bearing 22'. Cleats 18' apart, wedges,
+ 2 tarpaulins efficient.

Hatch on Upper Deck in Free, to store:

4' x 3' : Coaming B.A. 9', wood covers
22' thick, bearing 2', cleats 18' apart
wedges, battens + tarpaulins efficient.

Trimming hatches on Upper Deck, in Free:

2' x 2', Coaming 9' B.A. covers 3' wood
made W.T. with feet + 4 clips.

Poop Deck: 1'-10' x 2' : Coaming 2' 7' x 4'
wood covers 22', bearing 3', cleats 18'
wedges, battens + 2 tarpaulins efficient.

Upper Deck in Poop to store, 1'-10' x 2'

Coaming 3', wood covers 22' thick
no cleats.

Builder's name and yard number

W. Pickersgill & Sons Ltd.

Names of sister ships

"Newton Ash"

Owners

Tyneside Line Ltd.

Fee £

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Received by me



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