

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

(For London Office only.)

12 FEB 1936

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <b>NEWCASTLE-ON-TYNE</b>
having <i>File &amp; Shelter Deck with tonnage opening</i>					Date of Survey <i>11<sup>th</sup> Feby. 1936</i>
(Type of Superstructures.)					Name of Surveyor <i>H. J. Akesler</i>
Ship's Name <b>HOPESTAR</b>	Nationality and Port of Registry <i>British Newcastle</i>	Official Number <i>161592</i>	Gross Tonnage <i>5267</i>	Date of Build <i>1936</i>	Particulars of Classification <i>+100 A1 with 7th. Contemplated</i>
Moulded Dimensions: Length <i>410'</i> Breadth <i>57.25'</i> Depth <i>29.5' to 1st. dx.</i>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>16729</i> tons					
Coefficient of fineness for use with Tables <i>772.744</i>					
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ... <i>29.5'</i>		(a) Where D is greater than Table depth 2.20' (D-Table depth) R = <i>(29.53 - 27.33) 3.00</i>		Moulded Breadth (B) <i>57.25'</i>	
Stringer plate ... <i>.54 locally amidships</i>		= <i>+6.60"</i>		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{13.74}{50} = 13.74$	
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <i>✓</i>		Ship's Round of Beam = <i>14.2</i>	
T $\left(\frac{L-S}{L}\right) =$		If restricted by superstructures <i>✓</i>		Difference <i>Excess .76</i>	
Depth for Freeboard (D) = <i>29.53</i>				Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{.76}{4} \times .0059 = .11$	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	26.167	26.167	8.5'	✓	26.167	Standard Height of Superstructure <i>7'-6"</i>
" overhang ...						" " R.Q.D. <i>✓</i>
R.Q.D. enclosed ...						Deduction for complete superstructure <i>42.00"</i>
" overhang ...						Percentage covered $\frac{S}{L} = 100\%$
File Bridge enclosed...	379.0	379.00	8.5'	✓	379.00	" " $\frac{S_1}{L} = 99.41\%$
" overhang aft ...						" " $\frac{E}{L} = 99.41\%$
" overhang forward						Percentage from Table, Line A. <i>99.27%</i>
File enclosed ...						(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, Line B.
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...	4.833	2.416	8.5'	✓	2.416	Deduction = <i>42.00 x .9927 = -41.69"</i>
" " forward						
Total ...	410.00	407.58			407.58	

## SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product	Mean actual sheer aft = Excess
A.P. ...	51.00	1	51.00	39.75	51.75	1	51.00	Mean standard sheer aft
1/8 L from A.P. ...	22.695	4	90.78	18.0	23.03	4	90.78	Mean actual sheer forward = Deficient
3/8 L " ...	5.61	2	11.22	4.375	5.69	2	11.22	Mean standard sheer forward
Amidships ...	✓	4	✓	-	-	4	-	Length of enclosed superstructure forward of amidships =
3/8 L from F.P. ...	11.22	2	22.44	10.5	10.56	2	21.12	" " aft of " =
1/8 L " ...	45.39	4	181.56	37.75	42.72	4	170.88	
F.P. ...	102.00	1	102.00	84.0	86.0	1	96.00	
Total ...	459.00		459.00	112	112		441.00	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{18}{18} (.75 - .50) = +.25$

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.Ft.  
Depth to Freeboard Deck = *29.54*  
Summer freeboard = *3.62*  
Moulded draught (d) = *25.92*

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *6.48 = 6 1/2*

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 13050$ 

Tons per inch immersion at summer load water line

T = *47.8*Deduction =  $\frac{\Delta}{40T}$  inches= *6.82*= *6 3/4*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	6.60	-
Deduction for superstructures ...	-	41.69
Sheer correction ...	.25	-
Round of Beam correction ...	-	-
Correction for Thickness of Deck amidships ...	.18	-
Other corrections, scantlings, etc. ...	-	-
	7.03	41.69

Summer Freeboard = *43.44*

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

Tropical Fresh Water Line above Centre of Disc ...	13 1/4
Fresh Water Line " " ...	6 3/4
Tropical Line " " ...	6 1/2
Winter Line below " " ...	6 1/2
Winter North Atlantic Line " " ...	✓

Tropical Fresh Water Freeboard ...	3'-7 1/2"
Fresh Water " " ...	2'-6 1/4"
Tropical " " ...	3'-0 3/4"
Winter " " ...	3'-1"
Winter North Atlantic " " ...	4'-2 3/4"

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## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS													
Description of Hatchway			No 1 Hatch for S		No 2		No 2 A		Deep tank Hatch		No 3		
Dimensions of Hatchway			29-3 x 22-0 Shell S.K. Pld. S.K.		30 x 22 S. S.K. Pld. S.K.		22-6 x 22 S. S.K. Pld. S.K.		15 x 22 S. S.K. Pld. S.K.		30 x 22 S. S.K. Pld. S.K.		
COAMINGS	{	Height above Deck	30"	9'5"	30"	9'5"	30"	9'5"	30"	13'	30"	9'5"	
		Thickness	44"	44"	44"	44"	44"	44"					
		Stiffeners	7x3x.406 2 P.S.	7x3x.406 2 P.S.	7x3x.406 1 P.S.	7x3x.406 1 P.S.	7x3x.406 2 P.S.						
		Brackets, Stays											
HATCH BEAMS	{	Number	5	5	4	2	5						
		Spacing	4-10 1/2	5-0	3-9	5-0	5-0						
		Scantling and Sketch	4 1/2 x 3 x .46 19x.36 4 1/2 x 3 x .46	4 1/2 x 3 x .46 14x.34 4 1/2 x 3 x .46	4 1/2 x 3 x .46 10x.32 4x3x.46 10x.32 4x3x.46 20x.36 4 1/2 x 3 x .46	4 1/2 x 3 x .46 10x.32 4x3x.46 10x.32 4x3x.46 20x.36 4 1/2 x 3 x .46	4 1/2 x 3 x .46 14x.34 4 1/2 x 3 x .46	4 1/2 x 3 x .46 14x.34 4 1/2 x 3 x .46					
		Bearing Surface	3"	3"	3"	3"	3"	3"					
FORE AND AFTERS	{	Number											
		Spacing											
		Unsupported Lengths											
		Scantling* and Sketch											
HATCH COVERS	{	Material	wood	wood	wood	wood	wood	steel	wood				
		Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"					
		How fitted	F & A	F & A	F & A	F & A	F & A	F & A					
		Bearing Surface	3"	3"	3"	3"	3"	3"					
Spacing of Cleats			Cleats 6" off corners & 24" apart										
Number of Tarpaulins			Two tarpaulins for each hatch										

\*Are wood fore and afters steel shod at all bearing surfaces? ✓

Are battens and wedges efficient and in good condition? Yes

Are tarpaulins in good condition and in accordance with rule requirements? Yes

Are lashings provided in accordance with rule requirements? Yes

Particulars of fiddley, funnel and ventilator coamings :—

Fidley funnel & vents in efficient condition.  
Engine & galley skylights of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

none ✓

Particulars of Companionways :—

none!

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

On Slewing Gear House top 12" V to tunnel 18" Conning ✓  
8" V to store  
On Shelter Box. 6' x 4' G.N.V. 30% Conning  
2 @ 8" V. } to Accn. 30%  
2 @ 6" V. }  
4 @ 12 x 8 V. } to tunnel 24" C.  
2 @ 6' x 4' G.N.V. - 30" C.  
2 @ 6" G.N.V. } Air Space at Storehold Ans. 30" C.

On Sheller Sk. + two tenths 5 holes  $\left. \begin{array}{l} 6 @ 16 \\ 2 @ 12 \\ 4 @ 20 \end{array} \right\} 30^\circ \text{ Coaming}$   
 - - - - -  $\left. \begin{array}{l} 2 @ 16 \\ 2 @ 20 \end{array} \right\} 36^\circ \text{ c } \checkmark \text{ within } \frac{1}{4} \text{ to}$   
 - - - - - \* Deep tank 3 @ 13 -  $30^\circ \text{ c } \checkmark$   
 On F'dle  $\left. \begin{array}{l} 2 @ 16 \\ 2 @ 18 \end{array} \right\} \text{ + two tenths 5 holes } 36^\circ \text{ c } \checkmark$   
 - - - - - 10' v. \* Slope  $36^\circ \text{ c } \checkmark$

Vents closed with wood plugs & Canvas Covered.

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

3" air pipe on shelter dk. aft. to rudder trunk 18 high  
 3 1/2" - - - - - \* After peak  
 2 @ 2 1/2" } - - - - - to no 4 & 5 d.b.  
 2 @ 3 1/2" } - - - - - \* dk. d.b. 3 & 3A  
 4 @ 3" - - - - - \* No 2 d.b.  
 2 @ 3 1/2" - - - - -  
 1 @ 3 on File dk. \* no 1 d.b.  
 1 @ 3 1/2" - - - - - \* fore peak

} all 18 high.

All air pipes provided  
with wood plugs!

Particulars of Gangway Cargo and Coaling Ports:—

none ✓



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	No	4	to store on shell	Hatch on shell	Tonnage opening on shell	Another Hatch on shell	Another Hatch on shell	Small Hatch on shell	Hatch For on shell	Another Hatch on casing	Top
Dimensions of Hatchway	30' x 22'	S. 8K. Fld. 8K	3' x 3'	3-6 x 6-6	4-10 x 22	6-6 x 3-7	2' x 4'	2' x 2-6	3' x 3'	16-6 x 16-6	wide
COAMINGS	Height above Deck	30'	9' 5"	9' 5"	30'	12' 5"	30'	9' 5"	9' 5"	3' 6"	30' x 30'
	Thickness	.44		.44							
	Sides										
	Ends										
	Stiffeners	7 x 3 x 4 x 6									
	Brackets, Stays	2 x 8 x 5									
HATCH BEAMS	Number	5									
	Spacing	5' 0"									
	Scantling and Sketch	4 1/2 x 3 x 46	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bearing Surface	14 x 34 19 x 36 4 1/2 x 3 x 46 3"									
FORE AND AFTERS	Number										
	Spacing										
	Unsupported Lengths										
	Scantling* and Sketch		✓	✓	✓	✓	✓	✓	✓	✓	✓
	Bearing Surface										
HATCH COVERS	Material	wood	wood	wood	wood	wood	wood	wood	wood	wood	
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
	How fitted	F&A	Across	Across	F&A	Across	Across	Hinged	Across	Across	
	Bearing Surface	3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
Spacing of Cleats		6" x 24"	6" x 24"	6" x 19" x 24"	none	6" x 24"	6" x 24"	6" x 19"	none	6" x 19"	
Number of Tarpaulins		two for each	two	two	none	two	two	two	none	two	
*Are wood fore and afters steel shod at all bearing surfaces? ✓											
Are battens and wedges efficient and in good condition? Yes											
Are tarpaulins in good condition and in accordance with rule requirements? Yes											
Are lashings provided in accordance with rule requirements? Yes											

Particulars of fiddle, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—





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Index. No. \_\_\_\_\_  
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Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey _____	
having _____					Date of Survey _____	
(Type of Superstructures.)					Name of Surveyor _____	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification _____	
Moulded Dimensions: Length		Breadth	Depth			
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons						
Coefficient of fineness for use with Tables _____						

<b>Depth for Freeboard (D)</b>	<b>Depth correction</b>	<b>Round of Beam correction</b>
Moulded depth ... ..	(a) Where D is greater than Table depth (D—Table depth) R =	Moulded Breadth (B)
Stringer plate ... ..		Standard Round of Beam = $\frac{B \times 12}{50}$ =
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 =	Ship's Round of Beam =
		Difference
Depth for Freeboard (D) =	If restricted by superstructures	Restricted to
		Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) =$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	Standard Height of Superstructure _____
Poop enclosed ... ..						" " R.Q.D. _____
" overhang ... ..						Deduction for complete superstructure _____
R.Q.D. enclosed ... ..						Percentage covered $\frac{S}{L} =$
" overhang ... ..						" " $\frac{S_1}{L} =$
Bridge enclosed... ..						" " $\frac{E}{L} =$
" overhang aft ... ..						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
" overhang forward ... ..						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
F'cle enclosed ... ..						Interpolation for bridge less than 2L (if required)
" overhang ... ..						Deduction =
Trunk aft ... ..						
" forward ... ..						
Tonnage opening aft ... ..						
" " forward ... ..						
Total ... ..						

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	Mean actual sheer aft = Mean standard sheer aft =
A.P. ... ..		1				1		
$\frac{1}{6}$ L from A.P. ... ..		4				4		Mean actual sheer forward = Mean standard sheer forward =
$\frac{2}{6}$ L " ... ..		2				2		
Amidships ... ..		4				4		Length of enclosed superstructure forward of amidships = " " aft of " =
$\frac{2}{6}$ L from F.P. ... ..		2				2		
$\frac{1}{6}$ L " ... ..		4				4		
F.P. ... ..		1				1		
Total ... ..								

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

If limited on account of midship superstructure.

If limited to maximum allowance of 1½ ins. per 100 ft.

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b>	<b>Deduction for Fresh Water.</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required)
Depth to Freeboard Deck = Ft.	Displacement in salt water at summer load water line	Correction for coefficient
Summer freeboard =	Δ =	
Moulded draught (d) =	Tons per inch immersion at summer load water line	Depth Correction ... ..
	T =	Deduction for superstructures ... ..
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =	Deduction = $\frac{\Delta}{40 T}$ inches =	Sheer correction ... ..
Addition for Winter North Atlantic Freeboard (if required) =		Round of Beam correction... ..
		Correction for Thickness of Deck amidships ... ..
		Other corrections, scantlings, etc. ... ..
		Summer Freeboard =

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	"



Hope Star

Particulars of Scuppers and Sanitary Discharge Pipes :-  
with the exception of those from tonnage of well  
G. M. Storm Valves fitted at ship side scuppers & sanitary discharges. ✓  
2 @ 4" Soil pipe from House aft on Shelter Deck discharge below 2nd Deck. ✓  
2 @ 2" Wash basin scupper } from House aft on Shelter Deck discharge below 2nd Deck. ✓  
2 @ 2" from Crews quarters aft fitted with screw plug ✓  
2 @ 3 1/2" in Tonnage well without storm valve ✓  
2 @ 3 1/2" Scupper draining Shelter Deck in way way Hold ✓  
2 @ 4" Soil pipe from Eng's. House discharge above 2nd Deck. ✓  
2 @ 2" Wash basin ✓  
1 @ 1 1/2" } from Gallery discharge above 2nd Deck. ✓  
2 @ 2 1/2" Bath & W.C. } from Ops. House discharge above 2nd Deck. ✓  
4" soil ✓  
2 @ 2" Scupper from Cold chambers fitted with screw plug discharge below 2nd Deck. ✓

Particulars of Side Scuttles :-

In Shelter Deck is aft of Substantial Construction  
& provided with hinged deadlights. ✓

Particulars of Guard Rails :-

On upper & deck 3-3 high, 2 rods & stanchions about 4-6 apart. ✓  
On Shelter deck 3-3 3 - - - - - 4-6 "  
Steel bulwark on Shelter deck in way Officers' Eng's. Houses and ships & from aft end No. 1 Hatch to file on Shelter deck, 3-3 high efficiently constructed & supported. ✓

Particulars of Gangways, Lifelines, etc. :-

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 ... in way ... 1-0. ...	4.83	8.5'	24" x 12" ✓	one		
Forward Well ...						

State position of each freeing port ... } After Well :- in T.O. 12" from deck, having hinged cover.  
(F. and A. position and height above deck edge) } Forward Well :-

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.

#### Particulars of Superstructures, Trunks, Casings, Deckhouses.

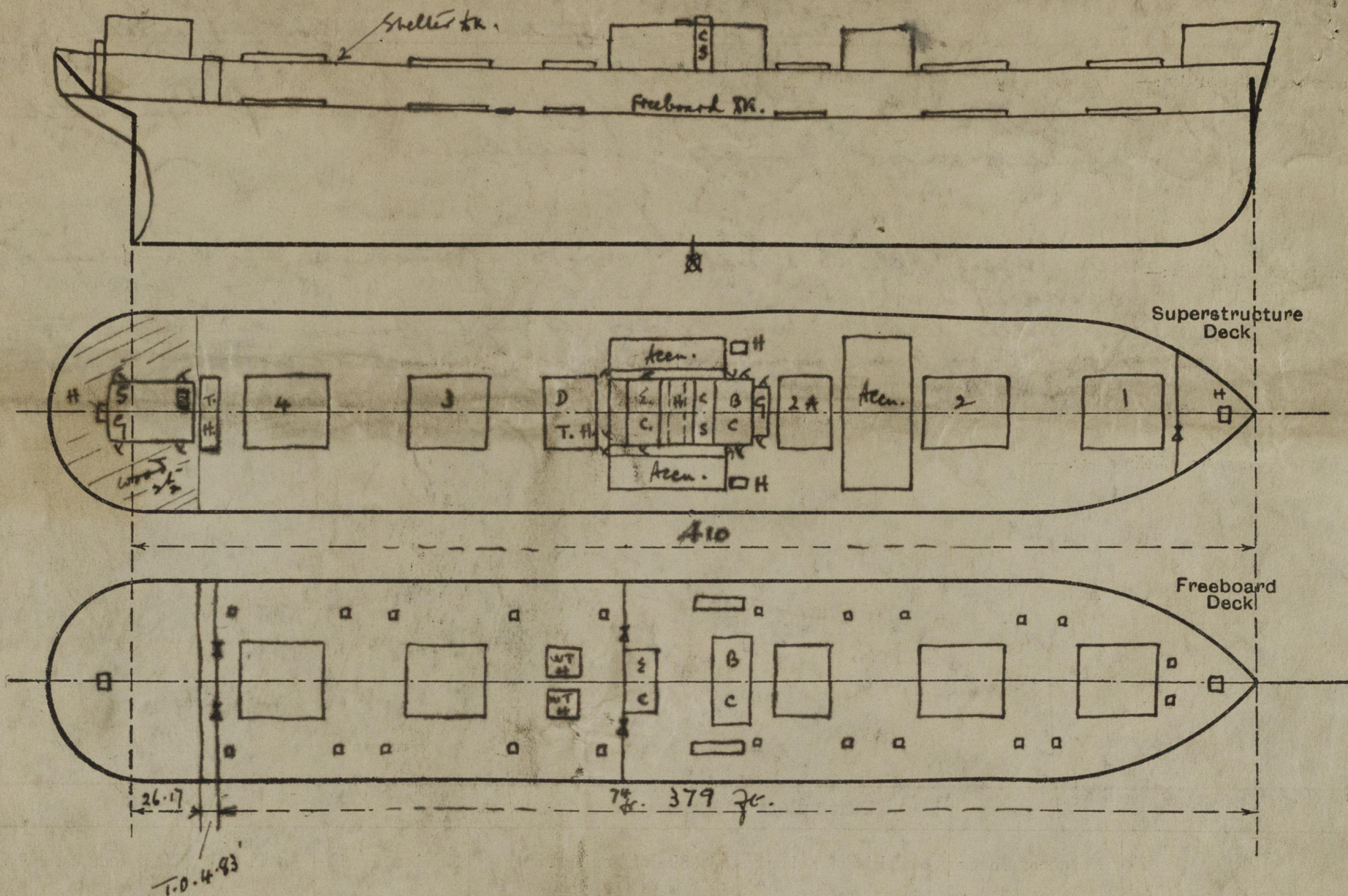
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead in way T.O. 13.5 ft.		.26 ✓	4 x 32 flats ✓	32 to 36 ✓	✓	no openings	✓	8.5'
Raised Quarter Deck Bulkhead ...		.26 ✓	4 x 32 ✓	32 to 39 ✓	✓	2 @ 5'-1 x 3'-1 ✓	15" ✓	8.5'
Bridge, After Bulkhead ... 15 ft ...		.26 ✓	4 x 32 ✓	28 to 33 ✓	✓	2 @ 5'-1 x 3'-1 ✓	15" ✓	8.5'
Bridge, Forward Bulkhead ...								
Forecastle Bulkhead ...								
Trunk, Aft ...								
Trunk, Forward ...								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks ...	.34 ✓	.30 ✓	3 x 26 flats ✓	30 to 36 ✓	✓	2 @ 5' x 2' ✓	18" ✓	7.5'
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	.40 ✓	.26 ✓	3 x 26 flats ✓	30 ✓	✓	none ✓	✓	7.5'
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ...	no openings ✓
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	3" wood shifting boards in welded channels full height P.T.S. ✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks ...	Steel door P.T.S. giving access to stokehold operated from both sides ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	no openings ✓
Deckhouses on Flush Deck Ships ...	✓



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:—

Vessel has welded decks, bulk top and bulk heads!

Builder's name and yard number

Swan Hunter & Wigham Richardson Ltd. No 1573

Names of sister ships

Owners

The Wallsend Shipping Co. Ltd.

Fee £

with 1.2.

Received by me



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