

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

28 JUN 1932
Index. No. **2162**
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tugboat

having **LYDIA** *Boop and bridge combined and forward*
Castro **STANROCK**
(Type of Superstructures.)

Port of Survey **Hull**

Date of Survey **24th June 1932**

Name of Surveyor **W. H. H. H. H.**

Particulars of Classification **H100A-1.**

Ship's Name **S.S. DARLINGTON** Nationality and Port of Registry **BRITISH HULL** Official Number **139282** Gross Tonnage **1076** Date of Build **1910-811.**

Moulded Dimensions: Length **255.1** Breadth **36.0** Depth **17.4**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **2254** tons

Coefficient of fineness for use with Tables **583** **68** lowest

Depth for Freeboard (D) **17.37**

Moulded depth ... **17.4**

Stringer plate ... **40**

Sheathing on exposed deck **POOP BRIDGE AND**
FORE DECK EXCEPT
FORWARD WELL 5' 3"
PIERCE

T $\left(\frac{L-S}{L} \right) =$ **17.37**

Depth for Freeboard (D) = **17.37**

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = **(17.37 - 17.01) 1.962 = +.71**

(b) Where D is less than Table depth (if allowed)
(Table depth - D) R = **17.01**

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) **36.0**

Standard Round of Beam = $\frac{B \times 12}{50} =$ **8.64**

Ship's Round of Beam = **9"**

Difference **.36**

Restricted to

Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$ **$\frac{.36^2}{4} \times 1.761 = .02$**

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					
" overhang					
Bridge enclosed...	169.2	157.28	8.0	+3" 21	157.28
" overhang aft					
" overhang forward	51.50	51.50	8.0	+3" 21	51.50
Fore enclosed ...	54.3	51.50	8.0	+3" 21	51.50
" overhang ...	2.75	1.37	+3" 21		1.37
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	223.45	210.15			210.15

Standard Height of Superstructure **6.05**

" " R.Q.D.

Deduction for complete superstructure **31.51**

Percentage covered $\frac{S}{L} =$ **87.59** $\frac{169.16}{255.1} = .663$

" " $\frac{S_1}{L} =$ **82.39** $\frac{145.66}{255.1} = .571$

" " $\frac{E}{L} =$ **82.39** $\frac{145.66}{255.1} = .571$

Percentage from Table, Line A. **78.27** $\frac{145.66 \times 9.185}{169.16} = 133.78$

(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 = **31.51 x 78.27 = -24.66**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	35.51	1		35.51	37	37.00	1		37.00
$\frac{1}{4}$ L from A.P. ...	15.80	4		63.20	14	13.43	4		53.72
$\frac{2}{4}$ L " ...	3.90	2		7.80	4	3.36	2		6.72
Amidships ...		4					4		
$\frac{3}{4}$ L from F.P. ...	7.81	2		15.62	9	7.50	2		15.00
$\frac{1}{4}$ L " ...	31.61	4		126.44	31	30.02	4		120.08
F.P. ...	71.02	1		71.02	67	67.00	1		67.00
Total ...				319.59					299.52

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 = **163** DOES NOT APPLY. SHEER DEFICIENT

" " aft of " = **500**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) =$ **$\frac{20.07}{18} (75 - 43.79) = +.35$**

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 = **17.62**

Summer freeboard = **1.06**

Moulded draught (d) = **16.56**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **4.14** **4 1/4"**

Addition for Winter North Atlantic Freeboard (if required) = **2"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ **2636**

Tons per inch immersion at summer load water line

T = **16.6**

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

= **3.97**

$d_4 = 4 1/4"$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc. ...

+	-
.71	
-24.66	
.35	
.02	
3.00	
-	
4.06	24.68
-20.62	

Summer Freeboard = **12.75**

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

Tropical Fresh Water Line above Centre of Disc ...	216...	8 1/2"	X
Fresh Water Line " " ...	108...	4 1/4"	X
Tropical Line " " ...	108...	4 1/4"	X
Winter Line below " " ...	108...	4 1/4"	X
Winter North Atlantic Line " " ...	150...	6 1/4"	X

Tropical Fresh Water Freeboard ...

Fresh Water " " ...

Tropical " " ...

Winter " " ...

Winter North Atlantic " " ...

30 JUN 1932

MARKING FORM

1 SEP 1932

RECEIVED

MARKING FORM

7 MAR 1932

RECEIVED

MARKING FORM

28 OCT 1932

RECEIVED

MARKING FORM

30 OCT 1932

RECEIVED

MARKING FORM

4 AUG 1932

RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
FIELD DK BRIDGE DK BRIDGED IN UPPER DK UPPER DK UPPER DK UPPER DK									
Description of Hatchway	N°1	N°3	N°4	N°1	N°2	N°3	N°4		
Dimensions of Hatchway	15'4" x 8'0"	13'5" x 7'0"	26'10" x 10'6"	15'4" x 8'0"	24'0" x 10'0"	13'5" x 12'0"	26'10" x 10'6"		
COAMINGS									
Height above Deck	27"	21"	21"	9'3" 35"	36"	9'3" 7"	9'7"		
Thickness	.40	.40	.45	-	.40	-	-		
Sides	.36	.36	.42	-	.40	-	-		
Stiffeners	6 x 3 x 30	NONE	6 x 3 x 32L	-	NONE	-	-		
Brackets, Stays	START ONLY	NONE	NONE	-	NONE	-	-		
HATCH BEAMS									
Number	2	1	5	2	5	2	5		
Spacing	EQUAL	EQUAL	EQUAL	EQUAL	EQUAL	18" 3'7"	EQUAL		
Scantling and Sketch	3 x 3 x 36	3 x 3 x 31	3 x 3 x 38	3 x 3 x 35	3 x 3 x 30	FROM FOREHEAD OF HATCH	3 x 3 x 38		
Bearing Surface	3"	3"	3"	3"	3"	5"	3"		
FORE AND AFTERS									
Number									
Spacing									
Unsupported Lengths									
Scantling* and Sketch									
Bearing Surface									
HATCH COVERS									
Material	STEEL	WP	WP	WP	WP	WP	WP		
Thickness	3"	3"	3"	3"	3"	3"	3"		
How fitted	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.		
Bearing Surface	2 1/2"	3"	2 1/2"	3"	2 1/2"	3"	3"		
Spacing of Cleats	24"	24"	24"	24"	24"	24"	24"		
Number of Tarpaulins	3	3	3	3	3	3	3		

*Are wood fore and afters steel shod at all bearing surfaces? **NONE**

Are battens and wedges efficient and in good condition? **GOOD**

Are tarpaulins in good condition and in accordance with rule requirements? **GOOD**

Are lashings provided in accordance with rule requirements? **3" manually lashing to my plates also lashing bar.**

Particulars of fiddley, funnel and ventilator coamings:—

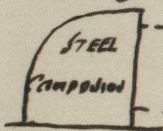
Particulars of fiddley, funnel and ventilator coamings:— Fiddly gratings covered by steel hinged storm cover. ~~Bad condition & to be renewed~~
Sally & light leak good, E.R. & light steel ~~4 broken glasses to renew~~
Ventilators B.R. Good, E.R. Good, Thunder ~~into~~ good, 6 man rooms & rooms below good.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways :—

Steel Rod Companion on roof deck with entrance to crew space
on upper deck & wood door 4' 9" x 2' 3 1/2", Lill 10' alum wood deck



Teak door 2' thick -
Spring locks and handles both sides.

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

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—		Arrive Deck To No 4 Hold	
FEEL DECK To No 1 HOLD	18' DIA x 24' x 13' CORRUG THIN TO REVEN.	POOP	TUNNEL 12' x 25' x 25'
1	18' x 24' x 25'		CREW 10' x 24' x 25' 2 OFF.
UPPER	2		STORE 6' mushroom
	18' x 9'6" x 30' Supported by knee at mainmast point.		CREW & C.P. 5 5005 NECK 6' dia x 9'6" To MOUNT.
	2		CREW 6' dia mushroom ant railroads etc.
ARRIVE	18' x 36' x 30'		
RUNTERS	9' x 18'		
	9' x 18'		

Plugs and covers supplied.

Plays and coins supplied.

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

FILE DECK TO FORE PEAK TANK $2\frac{1}{2}$ DIA x $4\frac{1}{2}$ ' TO MOUTH. GOOSE NECK

			Nº 1 TANK	3'	x	<u>2"</u>			
UNDER	FORE		2 P.S	3'	x	4'-6"			
	WELL		3 P.S	3'	x	6'			
BRIDGE									
DOOP			APT PERK	3½	x	4½			
BRIDGE			Nº 5 TANK P.S	3½	x	6'			

Wood plugs and rustling
to be ~~supply~~ filled

Particulars of Gangway Cargo and Coaling Ports :—

None.

CAENS W. C. PORT. STAB ON UPPER DECK DISCHARGING 24" BELOW UPPER DECK BY 4" STORM VALVE.

Castro
28 JUN 1932

Particulars of Scuppers and Sanitary Discharge Pipes
FILE DIL SCUPPER 1P. 15. 3" PIPE DISCHARGES 3'-6" BELOW
FILE DECK 5" V.
FILE SPACE 1P. 15 DISCHARGES 9" BELOW UPPER DECK 3" S.V.
UPPER DECK FOREWELL 1P. 15 CUT THROUGH STAINLESS ANGLE
BRIDGE SCUPPERS 3P. 35. 4" DIA S.V. 42" BELOW BRIDGE
BRIDGE SPACE SCUPPERS AFTER PORTION 1P. 15 DISCHARGING 12" BELOW UPPER DECK 4" STORM VALVE WITH SCREENED PLUG AT LOWER END AT UPPER DECK
MIDSHIP 1P. 15
FORWARD 1P. 15

WASH PLACE	24"	2"	"	"
STAR SIDE OFFICERS V.C. ON BRIDGE	24"	4"	"	"
LADIES WC	24"	4"	"	"
WASH BASIN	24"	2"	"	"
GALLEY WASTE	24"	2"	"	"
W.C. PASSENGER	24"	4"	"	"
BATH	24"	2 1/2"	"	"
PANTY WASTE	24"	2"	"	"
GALLEY SCUPPER	24"	2"	"	"

Particulars of Side Scuttles:

In bridge space 9' dia strong constructed with deadlight 15P and 15S.
Poop 10 4P. 4S.

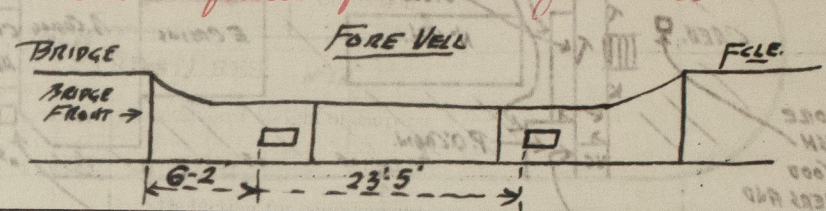
S.S. DARLINGTON

Particulars of Guard Rails:

On forecastle deck 3'-3" HIGH. stanchions spaced 4'-9" apart (3'-1" dia rods)
BRIDGE 36'-3'-6" (1'-2" dia pipe + 2'-1" rods)
Steel bulwark 26'-6" from fore end 3'-7" high. (No freeing ports fitted)

Particulars of Gangways, Lifelines, etc.:

Crew limited in the port. Lifelines supplied.
Suitable provision made for rigging lifelines available for use in any part of the ship which might require to be used by the crew in the regular working of the ship. 3" manilla lifelines fitted in fore well



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	16'-2"	3'-0"				
Forward Well	31'-0"	5'-4"	2'-6" x 1'-11"	2	9.6 sq	9.67 sq
State position of each freeing port			After Well:—			
(P. 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:—			HEIGHT ABOVE DECK 12"			
Additional area where sheer is less than standard.			3-1" Dia Rods.			

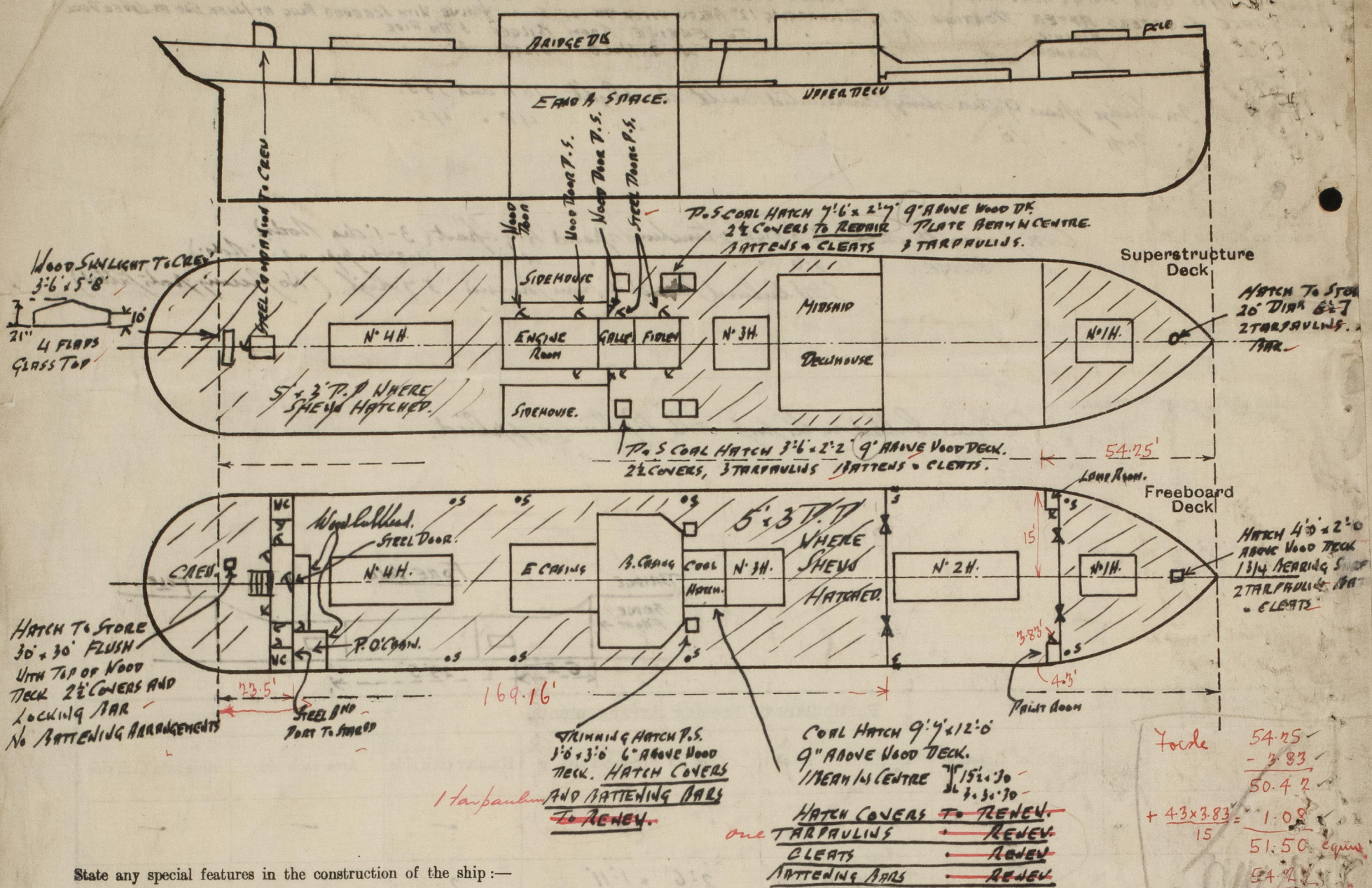
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	.25	.25	3 x 2 1/2 x 32	3'-0"	NONE	STEEL DOOR 5'-8" x 1'-11"	11"	8'-0"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	✓							
Bridge, Forward Bulkhead ...	.35	.35	7 x 3 x 40	27"	KNEES TOP AND BOTTOM	2 OPENINGS 5'-9" x 4'-0"	18"	8'-0"
Forecastle Bulkhead ...	.25	.25	3 x 3 x 30	36"	NONE	2 OPENINGS 5'-6" x 4'-0"	18"	8'-0"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ...	.30	.25	3 1/2 x 3 x 30	27"	KNEES TOP	DOORS 5'-0" x 2'-0"	16"	7'-6" ABOVE WOOD DECK
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	.30	.25	3 1/2 x 3 x 30	27"	NONE	STEEL DOORS TO FIDLEY GALLEY 3 WOOD E.R.		8'-0"
Deckhouses on Flush Deck Ships ...	✓							

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

Poop Bulkhead ...	1 STEEL HINGED DOOR IN CENTRE SPRING LOCK AND HANDLES BOTH SIDES.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	2 OPENINGS WITH 3" STORM BOARDS FULL LENGTH IN RIVETED CHANNELS SUPPORTED IN CENTRE BY VERTICAL TEE BAR 5 x 3 1/2 x 40 CLEATS AND ATTENDING ARRANGEMENTS ON OUTSIDE OF BULKHEAD OPENINGS.
Forecastle Bulkhead ...	2 OPENINGS WITH 3" STORM BOARDS IN RIVETED CHANNELS SUPPORTED IN CENTRE BY VERTICAL TEE BAR 5 x 3 1/2 x 40 WITH CLEATS AND ATTENDING ARRANGEMENTS ON OUTSIDE, AND 2 STEEL DOORS 5'-0" x 2'-0" TO LAHN. PAINT ROOMS SPRING LOCK. HANDLES
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	2 STEEL DOORS TO FIDLEY GALLEY SPRING LOCKS AND HANDLES BOTH SIDES TO RENEW AND CONDITION
Exposed Machinery Casings on Superstructure Decks ...	3 WOOD E.R. GOOD.
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 shewn on the following sketches:—



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

This vessel has been surveyed while lying afloat in the Railway Dock, Hull.

Builder's name and yard number EARLES & CO LTD HULL N° 567 Ship

Names of sister ships _____

Owners WILSONS & N.E. Ry. SHIPPING CO LTD

Fee £ 8 : 10 : _____ Received by me _____