

# THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT SURVEY FOR FREEBOARD

STEAMER, TANKER, S.M. SAILER:

"EMPIRE FASTNESS" "FIRMITY"

WITH TIMBER DECK CARGO  
WITHOUT

Nationality

BRITISH

Builders' Name and No. of Ship RICHARD DUNSTON LTD  
HESSELE. N° 456.

Port of Registry

HULL LONDON.

Official Number

180325

Owners MINISTRY OF WAR TRANSPORT

Gross Tonnage

411.05

(MGRS) HANNAN SAMUEL &amp; CO LTD. FOWEY.

Date of Build

DEC. 1944

Port and Date of survey HULL DURING CONSTRUCTION.

Name of Surveyor W. J. NOBLE.

Particulars of Classification BS\* (COASTING SERVICE)

Names of Sister Ships "EMP. FABRIC" TYPE.

Type of Superstructures

POOP &amp; FORECASTLE

Trade of Ship

Service Endorsement If any

SUMMER FREEBOARD recommended amidships from centre of disc to top of deck line, (.....wood..... steel)

TROPICAL FRESH WATER LINE above centre of disc	2 1/2"	Corresponding Freeboard	1'-6"
FRESH WATER LINE " " "	2 1/2"	" "	1'-3 1/2"
TROPICAL LINE " " "	0	" "	1'-6"
WINTER LINE below " "	2 1/2"	" "	1'-8 1/2"
WINTER NORTH ATLANTIC LINE " " "	4 1/2"	" "	1'-10 1/2"

SUMMER TIMBER FREEBOARD recommended amidships from top of deck line

TROPICAL FRESH WATER Timber line above L.S.

FRESH WATER " " " "		Corresponding Freeboard	
TROPICAL " " " "		" "	
WINTER " " below "		" "	
WINTER NORTH ATLANTIC " " " "		" "	

Number of years recommended for load line certificate

DATE OF ISSUE 20-11-44

DATE OF EXPIRY 19-11-49.

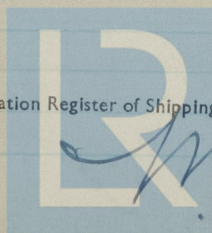
ASSIGN NOTES

The scantlings and protective arrangements being in accordance with the Load Line Rules it is submitted that the freeboards be assigned

Chief Surveyor

Passed at a meeting of the Committee of Management of the British Corporation Register of Shipping and Aircraft

on the 6TH DECEMBER, 1944



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Secretary

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## COMPUTATION OF FREEBOARD

Length on summer load line 141'-0" Moulded Breadth 27'-0" Moulded Depth 11'-0" Depth of Keel 1/2

Moulded displacement (ex bossing) at moulded draught of 85 per cent. of moulded depth 425 Tons

Co-efficient of fineness for use with tables  $\frac{\Delta \times 35}{L \times B \times D \times .85} = .7130$

Displacement and tons per inch immersion in salt water at summer load line 742 @ 7.95 T.P.I.

Moulded depth 11.000 Deduction for Fresh Water  $\frac{\Delta}{40 T} = 2.33$  inches

Stringer Plate	$\frac{3}{8}$ "	031	Round of Beam Correction
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Sheathing on exposed deck T  $\left(\frac{L-S}{L}\right)$  Ships Round of Beam 0.00 inches

Rise of floor (in sailers) \_\_\_\_\_ Standard Round of Beam  $\frac{B \times 12}{50}$  6.48

Depth for Freeboard (D)	11.031	Difference	6.48
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Table Depth 715 9-400 Restricted to \$

Depth Correction  $\frac{2}{130} \quad 1.631$  Correction  $\frac{\text{Difference}}{4} \times \left(1 - \frac{L}{L}\right) = 162 \times 2262$

If restricted by superstructures

	Enclosed Length	Length of Overhang	Height	Mean Covered Length (S)	Height Correction	Effective Length (E)
Poop	37' 6 <sup>3</sup> / <sub>4</sub>	-	7' 0"	41' 26	-	41' 26
Raised Quarter Deck	<hr/>					
Bridge	{	F				
		A				
Forecastle	13' 8 <sup>1</sup> / <sub>2</sub>	1' 10"	8' 0"	15' 63	-	14' 83
Trunk Aft	35' 1"		4' 0"		18' 24	23' 39
„ Forward	27' 10"		3' 4"	✓ 18' 26	27' 6	8' 26
Tonnage Opening Aft	18' 10"		3' 4"	✓ 14' 71	26' 67	4' 56
„ „ Forward					27' 6	
Totals	✓ 267 For Low COAMING on HATCH		23' 39 18' 56 10' 26	56' 89 52' 2	S.	92' 30

Standard Height of Superstructure 6' 0"

" " R.Q.D.

Percentage covered S/L = 40.34%

“ “ E/L = 65.46 %

from Table line A, B, (~~corrected for~~  
~~absence of forecast~~ if required) 55.28 %

Percentage from Table by interpolation for Bridge

less than  $\cdot 2L$  if required

Deduction =  $20.1 \times 5528 = 111106F$

Percentage from Table for Tankers (or Timber ships) =

## Deduction

$$\frac{S_1}{h_1} = 77.38\%$$

Station	Actual Sheer	Standard Sheer	Effective Sheer	S.M.	Product
A.P.				1	
$\frac{1}{3}$ L from A.P.				4	
$\frac{2}{3}$ L from A.P.				2	
Amidships				4	
$\frac{1}{3}$ L from F.P.				2	
$\frac{1}{3}$ L " "				4	
F.P.				1	
				18	

Mean Actual sheer aft = Less Than 1  
Standard

Mean Actual shear forward = LESS THAN 1  
 „ Standard „ „

$$\frac{\text{Length of enclosed superstructure forward of amidships}}{\text{Length of Ship}} =$$
$$\frac{\text{Length of enclosed superstructure aft of amidships}}{\text{Length of Ship}}$$
$$\text{Shear Correction} = \text{Difference} \times \left( 75 - \frac{S}{2L} \right) = 12.05 \times 54.83 = 6.607 \text{ mm}$$

Effective Mean Shear =

Standard „ „  $\cdot 05L + 5$  = 12.05

Difference 12.05

If limited on account of midship superstructure =

„ to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft. =

TABULAR FREEBOARD corrected for flush deck if required = 14.33

Correction for co-efficient =  $\frac{1393}{136} = 14.68$  DRAUGHTS AND SEASONAL CORRECTIONS

	+	-		Sailer, Tanker, Steamer	Timber
Depth correction	1.77	-			
Deduction for superstructures	-	11.11			
Sheer correction	6.61	-	Depth to Freeboard Deck in feet	11.031	
Round of Beam correction	.37	-	Summer Freeboard in feet	1.500	
Correction for thickness of deck amidships	-	.	Moulded Draught (d)	9.531	(d1)
Other corrections, scantlings, etc.	5.68		Addition for Keel	1/2 .042	
	14.43	11.11	Extreme draught	9.573	
Summer Freeboard in inches	1'6"	=	18'00"	Deduction for Tropical and addition for Winter freeboard d/4 = 2 1/2"	ins.
Additional allowance for superstructures on				Addition for Winter North Atlantic (if required)	4 1/2" ins.
Timber carrying ships	=			Deduction for Tropical Timber Freeboard d/1	= ins.
Summer Timber Freeboard in inches	=			Addition for Winter " " d/1	= ins.
				N.A. Timber Freeboard (if required)	

X DRAUGHT in S.W. RESTRICTED

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# THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT

## SURVEY FOR FREEBOARD CONDITIONS OF ASSIGNMENT

SHIPS NAME *EMPIRE FASTNESS.*OFFICIAL NUMBER *180325*Nationality and Port of Registry *BRITISH, HULL.*

## PARTICULARS OF SUPERSTRUCTURES, TRUNKS, CASINGS, DECKHOUSES

	Coaming	Plating	Stiffeners	Spacing	End Attachments	No. and size of Openings	Height of Sills	Height of Casings
Poop Bulkhead		$\frac{5}{16}$ "	$5" \times \frac{5}{16}"$	$2'-3"$	WELDED.	2@10" DIA.	5'-1"	4'-0"
R.Q.D. "								
Bridge Aft Bulkhead								
" Forward "								
Forecastle Bulkhead		$\frac{5}{16}$ "	$3 \times 3" \times \frac{1}{4}"$	$2'0" \times 2'6"$	WELDED	2@4'-1" x 1'-10"	1'-3"	8'-0"
Trunk, Aft		$\frac{5}{16}$ "	$3 \frac{1}{2} \times \frac{5}{16}"$	1'-10"	"			7'-0"
" Forward		$\frac{5}{16}$ "	$4" \times \frac{5}{16}"$	1'-8"	"			3'-4"
Exposed Machinery Casings on } Freeboard or R.Q. Decks }								
Exposed Machinery Casings on } superstructure decks }	$\frac{5}{16}"$	$\frac{1}{4}"$	$4" \times \frac{5}{16}"$	1'-9"	WELDED AT TOP BKT. AT BOTTOM	(?)		8'-3" 8'-5"
Machinery Casings within Super- structures not fitted with Cl. 1 closing appliances }								
Deckhouses on flush deck ships								

## PARTICULARS OF CLOSING APPLIANCES (state if capable of being manipulated from both sides)

Poop Bulkhead  
R.Q.D. "  
Bridge Aft Bulkhead  
" Forward "  
Forecastle Bulkhead  
Exposed Machinery Casings on }  
Freeboard or R.Q. decks }  
Exposed Machinery Casings on }  
superstructure decks }  
Machinery Casings within super-  
structures not fitted with Cl. 1  
Closing Appliances }  
Deck houses on Flush Deck ships

STEEL DOORS OPERATED BOTH SIDES.

on Poop



## PARTICULARS OF FREEING ARRANGEMENTS

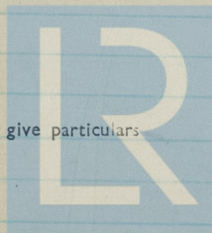
	Length of Bulwark	Height of Bulwark	No. and size of Freeing Ports each side	Area each side	Rule Area
After Well					
Forward Well					

SEE SKETCH.

State fore and aft position and height above } After Well  
deck to bottom of port, for each port }  
Forward Well

State whether freeing ports are fitted with shutters, bars or rails, and give particulars.

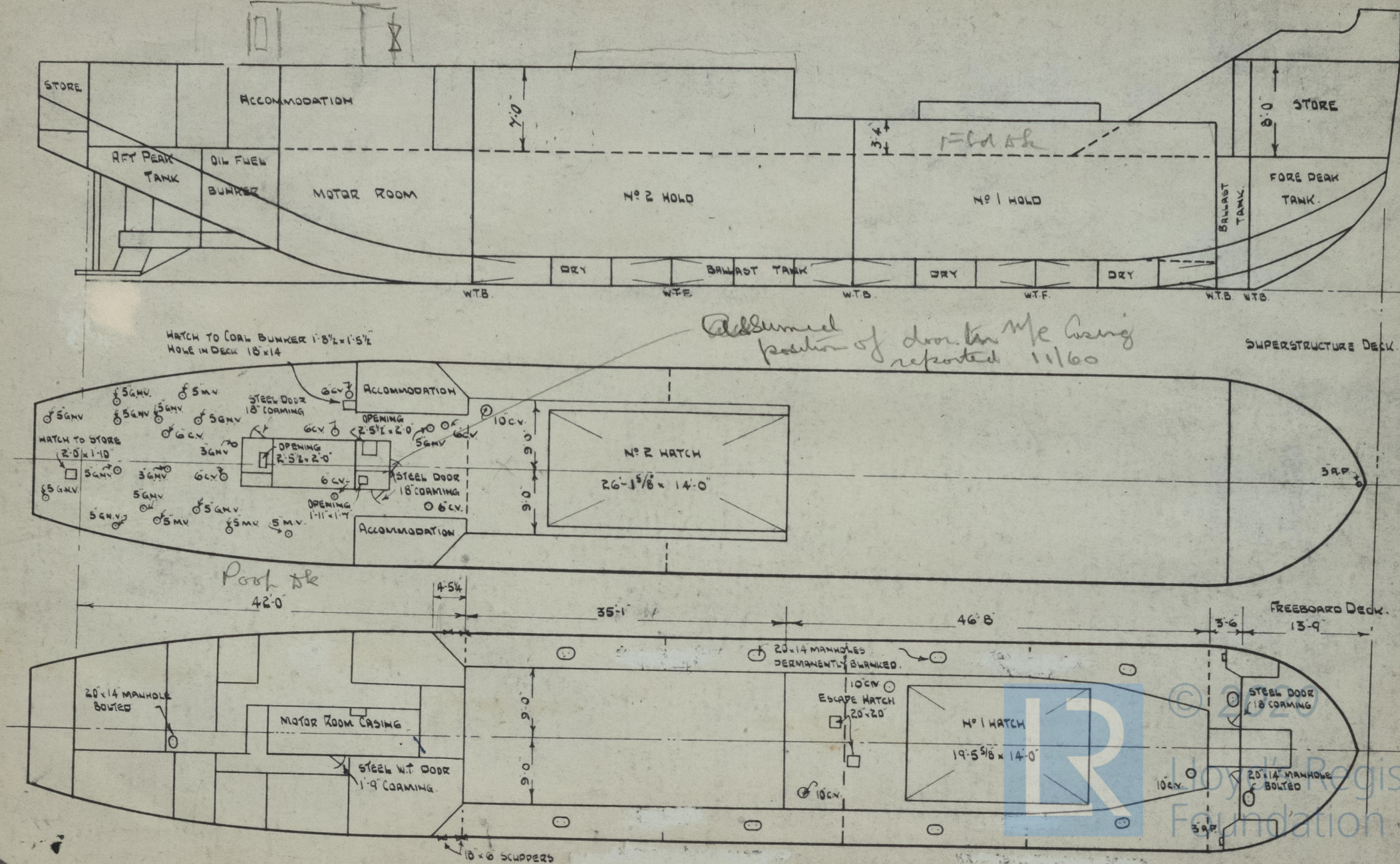
Give particulars of freeing port area, etc., on superstructure decks



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# PARTICULARS OF ALL HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Number and description of Hatchway from forward	UPPER DECK		POOP DECK							
	NO 1 HATCH	ESCAPE HATCHES	NO 2 HATCH	BUNKER	HATCH TO GALLEY	HATCH TO AFTER STORE				
Dimensions of Hatchway	11' 8" x 14' 8"	1' 8" x 1' 8"	26' 7 1/2" x 14' 8"	1' 8 1/2" x 1' 5 1/2"	2' 0" x 1' 10"					
COAMINGS	10" COAMING	18" COAMING	10" COAMING	1' 4 1/2"	1' 6"					
	1/2"	5/16"	1/2"	5/16"	5/16"					
HATCH BEAMS	2		3							
	6' 8"		6' 8"							
	2" x 3 1/2" FMT		2" x 3 1/2"							
	10" x 6" x 40 LBS. JOIST		10" x 6" x 40 LBS. JOIST							
FORE AND AFTERS	3"	1"	3"	1"						
HATCH COVERS	WOOD	STEEL	WOOD	STEEL	WOOD					
	2 7/8"	1/4"	2 7/8"	5/16"	2 5/8"					
	F & A		F & A		F & A					
	3"	1" PACKING	3"	1" PACKING	2.					
Spacing of Cleats	24"	2 DOGS	24"	WITH PADLOCK	2 EACH SIDE					
Number of Tarpaulins	2		2		2					

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

YES

Are lashings provided in accordance with rule requirements?

YES

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

NONE FITTED

Are battens and wedges efficient and in good condition?

YES



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Fiddley, Funnel and Vent Coamings, Engine Room skylight and other openings in Machinery Casing tops and their means of closing (state height of coamings, type of fiddley covers, and if these are permanently attached in their proper positions)

1 G.N. " " 4" " 1'-6" ABOVE CASING "

Flush Bunker Scuttles on freeboard and superstructure decks (state material, type of joints, etc., and if secured by hinge or permanent chain attachment)

Companionways on freeboard and superstructure decks (state material, height of doorway sills, type of doors, and if these can be closed and secured from both sides)

" " " " " PORTSIDE

" " " " " STARTED.

Ventilators in exposed positions on freeboard, raised quarter and superstructure decks to spaces below freeboard decks and fully enclosed superstructures enclosed by Class 1 appliances (state height of steel coamings, pitch of rivets in deck connection, type of closing arrangements)

2-10" DIA SOW VENTS P+S. 29" COAMING WELDED TO TRUNK TOP.

WOOD PLUGS & CANVAS COVERS. 11

4-6" DIA. COWL VENTS P 3'-0" COAMING WELDED TO DECK

WOOD PLUGS & CANVAS COVERS.

3.6" " " 5 " " " "

5-5" C.N. VENTS P 18" ABOVE DECK BOLTED " "

2.5" M " P 6" " " " "

RUBBER JOINT SCREW TOP

S 5" 0' N      S 18"      "      "      "      "

WOOD PLUGS & CANVAS COVERS

2-5" M " P 1" " " WELDED "

RUBBER JOINT SREW TOP

1-10" DIA. COWL KENTS 3'-0" FORMING " "

WOOD PLUGS & CANVAS COVERS.

Airpipes in exposed positions on freeboard, raised quarter and superstructure decks (state height to opening and if satisfactory closing arrangements are provided)

1-3" G.N. AIRPIPE ON  $\frac{1}{2}$  2'-0" ABOVE FORECASTLE BOLTED TO DECK

## WOOD PLUGS + CANVAS COVERS

2.3" " " <sup>2</sup> Pos. 3' 10" " UPPER DECK " " "

1-3" " " P.S. 4-3" " " " " " "

2-3" " " P. & S. 1'-7 $\frac{1}{2}$ " " TRUNK TOP 6'-11 $\frac{1}{2}$ " ABOVE DECK WELDED TO TRUNK TOP

WOOD PLUGS & CANVAS COVERS

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Scuppers and Sanitary Discharge Pipes (state material, type and number of valves)

BELOW FREEBOARD DECK.

[illegible]

ABOVE FREEBOARD DECK.

"PORT 1-2" G.M. SCREW DOWN STRAIGHT THRO' TYPE DISCHARGE VALVE.  
STARO 2-6 " " " " " " " "

Side Scuttles to spaces below freeboard and superstructure decks (state type or pattern, and if permanent or portable deadlights are supplied)

NAME.

Vertical distance of sill of lowest side scuttle below top of freeboard deck at side amidships

Guard Rails on freeboard and superstructure decks (state type and where fitted)

3"x2½"x30" ANGLE STANCHIONS WITH THREE SOLID RAILS ON POOP & UPPER DECKS AND ON  
FT. END OF FORECASTLE DECK. UPPER RAILS 1" DIA. LOWER RAILS 7/8" DIA. RAILS SPACED 15" APART.

## Gangways and Lifelines

COLLAPSIBLE STANCHIONS WITH  $1\frac{1}{2}$ " G.F.S.W.R. AROUND CARGO HATCHES.

1 1/2" G.E.S.W.R. LIFELINE FROM FORE END OF POOP STARB. DECKHOUSE TO AFT END OF MIDSHIP GUN PEDESTAL AND FROM FORE END OF MIDSHIP GUN PEDESTAL TO FORECASTLE FRONT.

Gangway, Cargo and Coaling Ports in sides of ship

NONE.

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SUPPLEMENTARY REQUIREMENTS FOR STEAMER CARRYING TIMBER DECK CARGOES

Do Superstructure and Machinery Casings comply with rules?

Is provision made for protection of steering gear?

Is emergency steering gear provided?

Are efficient sockets and eyes for lashings provided and properly spaced?

State particulars of longitudinal subdivision in double bottom

State particulars of Bulwarks and Rails

Particulars of any Special Features in the construction of the Ship

Endorsement at first survey and at surveys for Renewal of Certificate:—

The fittings and appliances are in accordance with the particulars shown in the form and are in good condition



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