

Form LL. 4.C. Revised

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT

"FUTURITY" SURVEY FOR FREEBOARD

STEAMER, TANKER, SAILER: S.M. "EMPIRE FANAL" WITHOUT TIMBER DECK CARGO

Nationality BRITISH Builders' Name and No. of Ship RICHARD DUNSTON LTD

Port of Registry HULL Owners F.T. EVERARD & SONS LTD. N° 455.

Official Number 180319 MINISTRY OF WAR TRANSPORT. LONDON.

Gross Tonnage 411.05 (MGRS) WM. ROBERTSON. GLASGOW.

Date of Build NOV. 1944 Port and Date of survey HULL DURING CONSTRUCTION.

Particulars of Classification B.S* (COASTING SERVICE) Name of Surveyor W.J. NOBLE

Type of Superstructures POOP AND FORECASTLE. Names of Sister Ships "FABRIC" TYPE.

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	<u>2 1/2"</u>	Corresponding Freeboard	<u>1' 3 1/2"</u>	<u>1' 6"</u>
FRESH WATER LINE " " "	<u>2 1/2"</u>	" "	<u>1' 3 1/2"</u>	
TROPICAL LINE " " "	<u>0</u>	" "	<u>1' 6"</u>	
WINTER LINE below " "	<u>2 1/2"</u>	" "	<u>1' 8 1/2"</u>	
WINTER NORTH ATLANTIC LINE " " "	<u>4 1/2"</u>	" "	<u>1' 10 1/2"</u>	

SUMMER TIMBER FREEBOARD recommended amidships from top of deck line				
TROPICAL FRESH WATER Timber line above L.S.		Corresponding Freeboard		
FRESH WATER " " " "		" "		
TROPICAL " " " "		" "		
WINTER " " below "		" "		
WINTER NORTH ATLANTIC " " " "		" "		

Number of years recommended for load line certificate

DATE of ISSUE 9-11-44

DATE of EXPIRY 8-11-49

ASSIGN. NOTE

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

[Signature]
Chief Surveyor

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 725 Tons @ 9'-4 3/16"

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 TONS. 7.95 TONS @ 9'-6"

Moulded depth 11.000

Deduction for Fresh Water $\frac{\Delta}{40 T} = 2.333$ inches

Stringer Plate 3/8" .031

Round of Beam Correction

Sheathing on exposed deck T $(\frac{L-S}{L})$

Ships Round of Beam 0.000 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

Table Depth 4/15 9.400

Restricted to

Depth Correction 1/30 x 1.631

Correction $\frac{\text{Difference}}{4} \times (1 - \frac{S}{L}) = 1.62 \times .2262 = .366504$

If restricted by superstructures 1.76904

	Enclosed Length	Length of Overhang	Height	Mean Covered Length (S)	Height Correction	Effective Length (E)
Poop	37'-6 3/4"		7'-0"	41.26		41.26
Raised Quarter Deck						
Bridge		F				
		A				
Forecastle	13'-8 1/16"	1'-10"	8'-0"	15.63		14.83
Trunk Aft	35'-1"		7'-0"		18/27	23.39
" Forward	27'-10"		3'-4"		18 x 2.67	8.26
Tonnage Opening Aft	18'-10"				27 x 6	4.56
" " Forward					14 x 12.67	
Totals				56.89		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 forecastle if required) 55.28%

Percentage from Table by interpolation for Bridge

less than .2L if required =

Deduction = 20.1 x 55.28 = 11.11 off

Percentage from Table for Tankers (or Timber ships) =

Deduction =

Station	Actual Sheer	Standard Sheer	Effective Sheer	S.M.	Product
A.P.				1	
1/8 L from A.P.				4	
1/8 L from A.P.				2	
Amidships				4	
1/8 L from F.P.				2	
1/8 L " "				4	
F.P.				1	
				18	

Mean Actual sheer aft = LESS THAN 1.

Mean Actual sheer forward = LESS THAN 1.

Length of enclosed superstructure forward of amidships =

Length of Ship

Length of enclosed superstructure aft of amidships =

Length of Ship

Sheer Correction = Difference X $(.75 - \frac{S}{2L}) = 12.05 \times .5483 = 6.607$ in.

Effective Mean Sheer =

Standard " " .05L + 5 =

Difference

If limited on account of midship superstructure =

" to maximum allowance of 1 1/2 ins. per 100 ft. =

TABULAR FREEBOARD corrected for flush deck if required = 14.33

Correction for co-efficient = $\frac{1393}{136} \times = 14.68$

	+	-
Depth correction	1.77	-
Deduction for superstructures	-	11.11
Sheer correction	6.61	-
Round of Beam correction	.37	-
Correction for thickness of deck amidships	-	-
Other corrections, scantlings, etc.	5.68	-
	14.43	11.11

Summer Freeboard in inches 1'-6" = 18.00

Additional allowance for superstructures on

Timber carrying ships =

Summer Timber Freeboard in inches =

DRAUGHTS AND SEASONAL CORRECTIONS

	Sailor, Tanker, Steamer	Timber
Depth to Freeboard Deck in feet	11.031	
Summer Freeboard in feet	1.500	
Moulded Draught (d)	9'-6 3/8"	9.531 (d1)
Addition for Keel	1/2"	.042
Extreme draught	9'-6 7/8"	9.573
Deduction for Tropical and addition for Winter freeboard d/4 =	2 1/2	ins.
Addition for Winter North Atlantic (if required)	4 1/2	ins.
Deduction for Tropical Timber Freeboard d/1		ins.
Addition for Winter " d/1		ins.
" " N.A. Timber Freeboard (if required)		ins.

AGREED WITH I.M.B. THAT DRAUGHT (M) SHOULD BE RESTRICTED TO 9'-6 3/8" IN SALT WATER.

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT

SURVEY FOR FREEBOARD

CONDITIONS OF ASSIGNMENT

SHIPS NAME

"EMPIRE FANAL"OFFICIAL NUMBER **180319.**

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		5/16" 1/4"	5" x 5/16"	2'-3"	WELDED	2 @ 10" DIA.	5'-1"	7'-0"
R.Q.D. "								
Bridge Aft Bulkhead								
" Forward "								
Forecastle Bulkhead		5/16"	3" x 3" x 1/4"	2'-0" 2'-6"	WELDED	2 @ 4'-1" x 1'-10"	1'-3"	8'-0"
Trunk, Aft	5/16"	5/16"	3 1/2" x 5/16"	1'-10"	-	-	-	7'-0"
" Forward		5/16"	4" x 5/16"	1'-8"	-	-	-	3'-4"
Exposed Machinery Casings on } Freeboard or R.Q. Decks }								
Exposed Machinery Casings on } superstructure decks }	5/16"	1/4"	4" x 5/16"	1'-9"	WELDED AT TOP SKT. AT BTM.	-	-	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	NONE
R.Q.D. "	-
Bridge Aft Bulkhead	-
" Forward "	-
Forecastle Bulkhead	HINGED STEEL DOORS - OPERATED BOTH SIDES.
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	

PARTICULARS OF FREEING ARRANGEMENTS

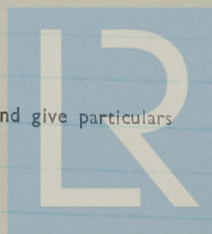
	Length of Bulwark	Height of Bulwark	No. and size of Freeing Ports each side	Area each side	Rule Area
After Well		SEE SKETCH			
Forward Well					

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				HATCH TO 1 & 2 BUOYANCY SPACES		HATCH TO 3 & 4 BUOYANCY SPACES	
	NO. 1. HATCH.	NO. 1 & 2 HOLD ESCAPE HATCHES.	NO. 2. HATCH.	AFTER STORE.	HATCH TO GALLEY BUNKER.	HATCH TO 1 & 2 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.	HATCH TO 3 & 4 BUOYANCY SPACES.
Dimensions of Hatchway	19'-11 5/8" x 14'-8 3/4"	1'-8" x 1'-8"	26'-7 5/8" x 14'-8 3/4"	2'-0" x 1'-10"	1'-8 1/2" x 1'-5 1/2"	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P	4'-0" x 2'-8" A110P
COAMINGS	Height above steel deck 4'-2" ABOVE DK. 10" COAMING.	Height above steel deck 4'-10" ABOVE DK. 18" COAMING.	Height above steel deck 4'-10" ABOVE DK. 10" COAMING.	Height above steel deck 1'-6"	Height above steel deck 1'-4 1/2"	Height above steel deck 3'-6"	Height above steel deck 3'-6"	Height above steel deck 3'-6"	Height above steel deck 3'-6"	Height above steel deck 3'-6"	Height above steel deck 3'-6"	Height above steel deck 3'-6"
	Thickness 1/2"	Thickness 5/16"	Thickness 1/2"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"	Thickness 5/16"
	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners	Stiffeners
HATCH BEAMS	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays	Brackets or Stays
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing
FORE AND AFTERS	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch
	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
HATCH COVERS	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing	Spacing
	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths	Unsupported lengths
	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch	Scantling and Sketch
HATCH COVERS	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets	Bearing Surface and thickness of carriers or sockets
	Material	Material	Material	Material	Material	Material	Material	Material	Material	Material	Material	Material
	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness	Thickness
HATCH COVERS	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted	How Fitted
	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface	Bearing Surface
	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats	Spacing of Cleats
HATCH COVERS	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins	Number of Tarpaulins
	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?	Are tarpaulins in good condition and in accordance with rule requirements?
	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?	Are lashings provided in accordance with rule requirements?

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

Are lashings provided in accordance with rule requirements?

YES.

YES.

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

Are battens and wedges efficient and in good condition?

NONE FITTED.

YES.

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)

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)

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)

WOOLY PLUG & CANVAS COVER.

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

PORT	1-2"	G.M. SCREW DOWN STRAIGHT THRO' TYPE DISCHARGE VALVE WITH EXTENDED SPINDLE TO UPPER DECK	} BELOW FREEBOARD DECK
STAR.	2-2"	VALVES " " SPINDLES : " "	
STB	2-4"	VALVE " " " "	
PORT	1-2	" " " " " "	

} ABOVE
FREEBOARD
DECK

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

NONE

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" X 2 1/2" X 30" ANGLE STANCHIONS WITH 3 SOLID RAILS FITTED ON POOP & UPPER DECKS AND ON AFT END OF FORECASTLE DECK. LOWER RAILS 7/8" DIA. SPACED 13" APART. UPPER RAIL 1" DIA.

Gangways and Lifelines

COLLAPSIBLE STANCHIONS WITH 1 1/2" G.F.S.W.R. AROUND CARGO HATCHES.
1 1/2" G.F.S.W.R. LIFELINE FROM FORE-END OF POOP STAR. 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



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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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