

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT

- SURVEY FOR FREEBOARD

STEAMER, TANKER, SAILER, ~~TR~~ "AMIR" EMPIRE TROTWOOD WITH
WITHOUT TIMBER DECK CARGO

Nationality BRITISH Builders' Name and No. of Ship Grangemouth Dry Co, Grangemouth. No 455
 Port of Registry GRANGEMOUTH. LONDON. Owners M.O.T. J. J. Everett & Son. (Mans)
 Official Number 180356 Gross Tonnage 797.46 810 M.O.T. 17.5.52. KUWAIT OIL CO LTD. LONDON
 Date of Build MAY 1944. Port and Date of survey Grangemouth.

Name of Surveyor P. R. Hunter.
 Particulars of Classification BS. X (Bulk Oil Carrier) Names of Sister Ships Emp. Arthur, Gairnie, Donald J. Harbour, Wrenley.

Type of Superstructures Forecastle & Poop.

Trade of Ship

Service Endorsement if any

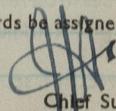
Tanker

SUMMER FREEBOARD recommended amidships from centre of disc to top of deck line, (.....wood..... steel)			
TROPICAL FRESH WATER LINE above centre of disc	6 1/2"	Corresponding Freeboard	0 - 11 1/2"
FRESH WATER LINE " " "	3 1/2"	" "	0 - 5
TROPICAL LINE " " "	3"	" "	0 - 8
WINTER LINE below " "	3"	" "	0 - 8 1/2
WINTER NORTH ATLANTIC LINE " " "	5"	" "	1 - 2 1/2
			1 - 4 1/2

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

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 1st March 1944

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 Secretary

COMPUTATION OF FREEBOARD

Length on summer load line 190'-0" Moulded Breadth 30'-6" Moulded Depth 13'-11 7/8" Depth of Keel .45
 Moulded displacement (ex bossing) at moulded draught of 85 per cent. of moulded depth 1387. Tons
 Co-efficient of fineness for use with tables $\frac{\Delta \times 35}{L \times B \times D \times .85} = 7047$
 Displacement and tons per inch immersion in salt water at summer load line 1556 *Q. 11.40 T.P.I.*
 Moulded depth 13.990 Deduction for Fresh Water $\frac{\Delta}{40T} = 3\frac{1}{2}$ inches
 Stringer Plate .40" .033 Round of Beam Correction
 Sheathing on exposed deck T $(\frac{L-S}{L})$ - Ships Round of Beam 7.50 inches
 Rise of floor (in sailers) - Standard Round of Beam $\frac{B \times 12}{50} = 7.32$
 Depth for Freeboard (D) 14.023 Difference .18
 Table Depth $\frac{1}{16}$ 12.667 Restricted to
 Depth Correction $\frac{1}{16} \times 30$ 1.356 Correction $\frac{\text{Difference}}{4} \times (1 - \frac{S}{L}) = .045 \times .2948 = .01 \text{ OFF.}$
 If restricted by superstructures = 1.982 ON = .01 OFF.

	Enclosed Length	Length of Overhang	Height	Mean Covered Length (S)	Height Correction	Effective Length (E)
Poop	67'-8 3/4"		7'-6"	65.81	-	67.00
Raised Quarter Deck	65'-9 3/4"					
Bridge		F				
		A				
Forecastle	20'-8 1/4"		6'-10"	20.69		20.69
Trunk Aft						
" Forward	101'-7 1/2"		3'-6"	$\frac{3 \times 14.25}{6 \times 30.5} = .075$		27.70
Tonnage Opening Aft						
" Forward						
Totals				86.50		115.45

Station	Actual Sheer	Standard Sheer	Effective Sheer	S.M.	Product
A.P.	29 1/16"	29.00	29.06	1	29.06
1/2 L from A.P.	10 7/16"	12.91	10.44	4	41.76
1/2 L from A.P.	-	3.19	-	2	-
Amidships	-	-	-	4	-
1/2 L from F.P.	-	6.38	-	2	-
1/2 L " "	23 3/8"	25.81	23.38	4	93.52
F.P.	57 1/2"	58.00	57.50	1	57.50
				18	221.84
Effective Mean Sheer					12.324
Standard " "		.05L+5			14.500
Difference					2.176

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 $\times (.75 - \frac{S}{2L}) = 2.176 \times .5224 = 1.140 \text{ ON}$
 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 = 21.50
 Correction for co-efficient = $\frac{1.3847}{1.36} = 21.89$

	+	-	Sailor, Tanker, Steamers	Timber
Depth correction	1.99	-		
Deduction for superstructures	-	13.21		
Sheer correction	1.14	-		
Round of Beam correction	-	.01		
Correction for thickness of deck amidships	-	-		
Other corrections, scantlings, etc.	-	-		
	3.12	13.22		
Summer Freeboard in Inches	$S = 11\frac{1}{2} = 11.79$			
Additional allowance for superstructures on Timber carrying ships	=			
Summer Timber Freeboard in Inches	=			
			Depth to Freeboard Deck in feet 14.020	
			Summer Freeboard in feet .958	
			Moulded Draught (d) 13.065	(d1)
			Addition for Keel .040	
			Extreme draught 13'-1 3/16" 13.105	
			Deduction for Tropical and addition for Winter freeboard $d/4 = 3.266$ ins.	
			Addition for Winter North Atlantic (if required) 5.165 ins.	
			Deduction for Tropical Timber Freeboard $\frac{d}{4} = .$ ins.	
			Addition for Winter " " $\frac{d}{3} = .$ ins.	
			" " N.A. Timber Freeboard (if required) = . ins.	

Form LL. 4.D.

THE BRITISH CORPORATION REGISTER OF SHIPPING AND AIRCRAFT
 SURVEY FOR FREEBOARD
 CONDITIONS OF ASSIGNMENT

SHIPS NAME "EMPIRE TROTWOOD". OFFICIAL NUMBER 180356.
 Nationality and Port of Registry BRITISH FRANKMOUTH

PARTICULARS OF SUPERSTRUCTURES, TRUNKS, CASINGS, DECKHOUSES

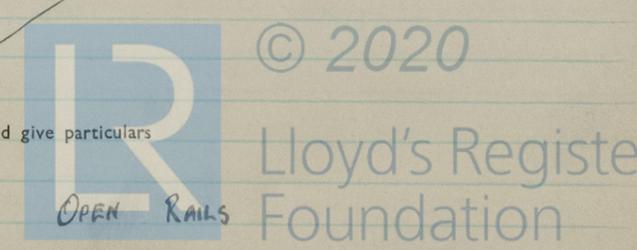
	Coaming	Plating	Stiffeners	Spacing	End Attachments	No. and size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓	.30"	7' x 3" x .38BH	30'	Bkt	✓	✓	2'-6"
R.Q.D. "	✓							
Bridge Aft Bulkhead	✓							
" Forward "	✓							
Forecastle Bulkhead	✓	.28"	3' x 2 1/2" x 28	27'	✓	2' 0" x 2' 0"	15"	6'-0"
Trunk, Aft		.28"						
" Forward								
Exposed Machinery Casings on Freeboard or R.Q. Decks	✓							
Exposed Machinery Casings on superstructure decks	✓							
Machinery Casings within Superstructures 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)

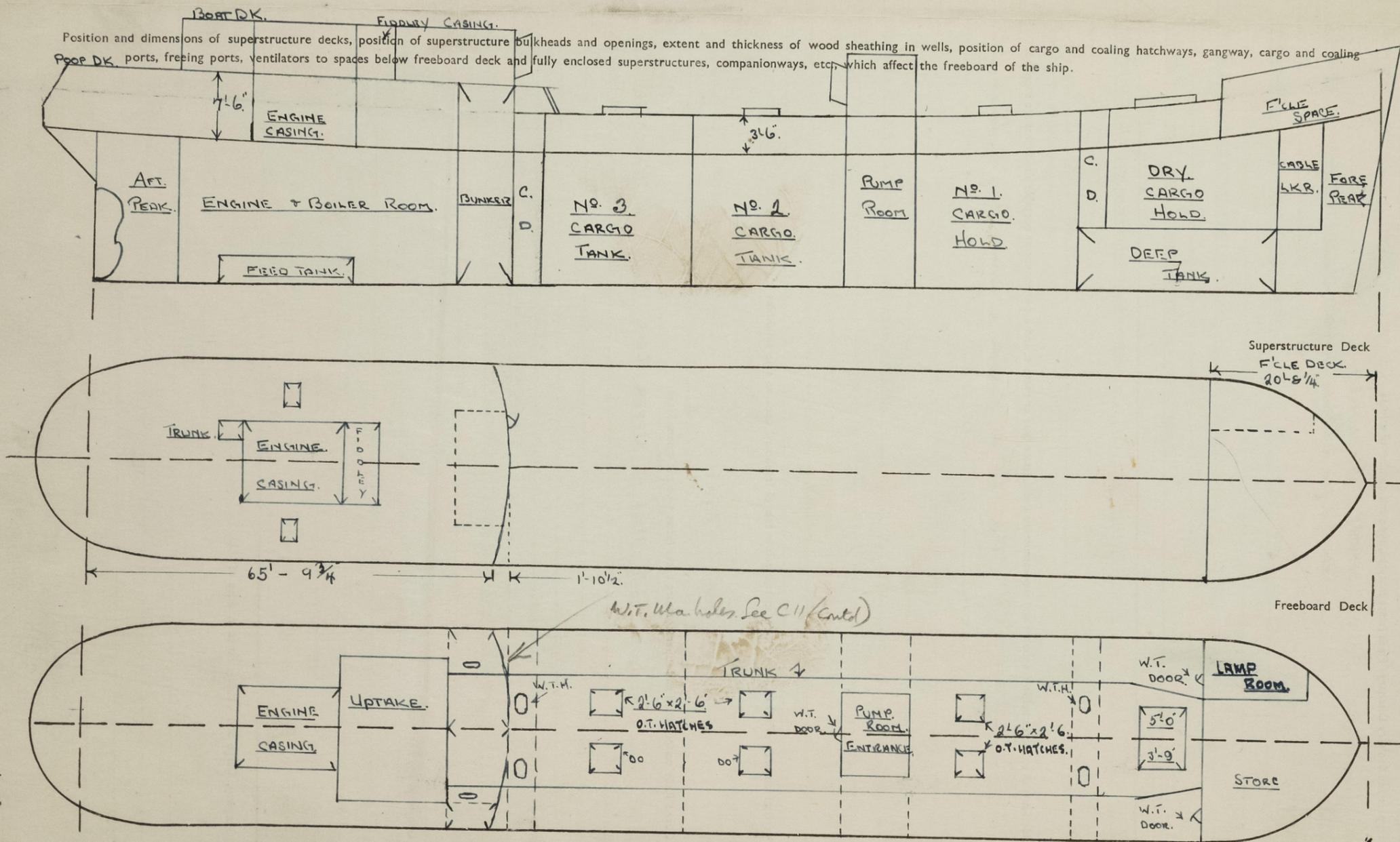
Poop Bulkhead	NO OPENINGS.
R.Q.D. "	✓
Bridge Aft Bulkhead	✓
" Forward "	✓
Forecastle Bulkhead	W.T. HINGED STEEL DOORS.
Exposed Machinery Casings on Freeboard or R.Q. decks	✓
Exposed Machinery Casings on superstructure decks	✓
Machinery Casings within superstructures not fitted with Cl. 1 Closing Appliances	✓
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					
Forward Well					
State fore and aft position and height above deck to bottom of port, for each port			After Well		
			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					



Position and dimensions of superstructure decks, position of superstructure bulkheads and openings, extent and thickness of wood sheathing in wells, position of cargo and coaling hatchways, gangway, cargo and coaling ports, freeing ports, ventilators to spaces below freeboard deck and fully enclosed superstructures, companionways, etc. which affect the freeboard of the ship.



PARTICULARS OF ALL HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Number and description of Hatchway from forward	PES			
	Cargo Hold	No 1 TANK	No 2 TANK	No 3. TANK
Dimensions of Hatchway	5'-0" x 3'-9"	2'-6" x 2'-0"	✓	✓
COAMINGS	Height above steel deck	18"	9"	✓
	Thickness sides	AA"	✓	✓
	Stiffeners	9 x 3 x 38 BR	✓	✓
Brackets or Stays				
HATCH BEAMS	Number			
	Spacing			
	Scantling and Sketch			
Bearing Surface and thickness of carriers or sockets				
FORE AND AFTERS	Number			
	Spacing			
	Unsupported lengths			
	Scantling and Sketch			
Bearing Surface and thickness of carriers or sockets				
HATCH COVERS	Material	3/8" STEEL	✓	✓
	Thickness	COVER SECURED	✓	✓
	How Fitted	By 8 TOEGLES		
	Bearing Surface	2 of which act as hinges		
	Spacing of Cleats			
Number of Tarpaulins				

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

Are lashings provided in accordance with rule requirements? ✓

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

Are battens and wedges efficient and in good condition? ✓



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Give full particulars of the following:—

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)

ENGINE room skylight 12" Coaming Hinged steel covers operated by quadrants.

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)

W.T. Hinged steel doors to pump room
& Bridge Space aft - Operated both sides

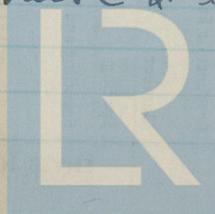
Ventilators in exposed positions on freeboard, raised quarter and superstructure decks to spaces below freeboard decks and fully enclosed superstructures enclosed by Class 1 appliances (state height of steel coamings, pitch of rivets in deck connection, type of closing arrangements)

Vents to accomm^e in Bridge Space 6" Dia
18" x 30" coamings welded to deck

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

F.P.	1 OFF	18"	WOOD	Pluto.
A.P.	1 OFF	18"	"	"
Cofferdams	4 OFF	24"	"	"

Air Pipes to Cargo Tanks in Common Main with relief valve & led to Mast



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