

THE BRITISH CORPORATION REGISTER OF
SHIPPING AND AIRCRAFT
SURVEY FOR FREEBOARD

STEAMER, TANKER, SAILER: S.M. SANGARA WITH TIMBER DECK CARGO
WITHOUT
Nationality BRITISH Builders' Name and No. of Ship SCOTTS, S 2 E. CO LTD.
Port of Registry LIVERPOOL Nº 574.
Official Number 166270 Owners ELOER DEMPSTER LINES LTD.
Gross Tonnage 5445 4189
Date of Build 1939 Port and Date of survey SUNDERLAND
Name of Surveyor
Particulars of Classification BS * Names of Sister Ships SORO, SWEDRO, SANSU.
Type of Superstructures SHelter DECK WITH TONNAGE OPENING Aft.
Trade of Ship
Service Endorsement if any

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

		Corresponding Freeboard	
TROPICAL FRESH WATER LINE above centre of disc	<u>11 1/2"</u>		<u>2'-1"</u>
FRESH WATER LINE	<u>6"</u>	" "	<u>1'- 1 1/2"</u>
TROPICAL LINE	<u>5 1/2"</u>	" "	<u>1'- 7"</u>
WINTER LINE below " "	<u>6"</u>	" "	<u>1'- 7 1/2"</u>
WINTER NORTH ATLANTIC LINE " " "	<u>-</u>	" "	<u>2'- 7"</u>

SUMMER TIMBER FREEBOARD recommended amidships from top of deck line

		Corresponding Freeboard
TROPICAL FRESH WATER Timber line above L.S.		
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

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

on the 4th December, 1946



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Chief Surveyor

Secretary

COMPUTATION OF FREEBOARD

Length on summer load line	373	Moulded Breadth	52.6	Moulded Depth	24.9	Depth of Keel	
Moulded displacement (ex bossing) at moulded draught of 85 per cent. of moulded depth	8457	Tons					
Co-efficient of fineness for use with tables	$\frac{\Delta \times 35}{L \times B \times D \times 85} = \frac{8457 \times 35}{373 \times 52.6 \times 24.75 \times 85} = 0.7184$						
Displacement and tons per inch immersion in salt water at summer load line	$\Delta = 9250$ T.P.I. = 37.78						
Moulded depth	24.75	Deduction for Fresh Water	$\frac{\Delta}{40T} = 6.12$	"	6"	inches	
Stringer Plate	.38"	Round of Beam Correction					
Sheathing on exposed deck T (L-S)	-	Ships Round of Beam	13"			inches	
Rise of floor (in sailers)	-	Standard Round of Beam	Bx12 50	12.6"			
Depth for Freeboard (D)	24.782	Difference		.4"			
Table Depth	24.867	Restricted to					
Depth Correction	.085	Correction	$\text{Difference} \times \left(1 - \frac{E}{L}\right) = .1 \times .0067 = .0007$				
If restricted by superstructures	.244						

	Enclosed Length	Length of Overhang	Height	Mean Covered Length (S)	Height Correction	Effective Length (E)
Poop	42.0	-	8.9	42.0	-	42.0
Raised Quarter Deck	-	-	-	-	-	-
Bridge	326.0	F	8.9	326.0	-	326.0
Forecastle	-	-	-	-	-	-
Trunk-Aft	-	-	-	-	-	-
Forward	-	-	-	-	-	-
Tonnage Opening Aft	5.0	-	5.0	-	-	2.5
Totals	373.0			370.5		

Standard Height of Superstructure 7.23
 Percentage covered S/L = 100%
 " " E/L = $\frac{370.5}{373} = 99.33\%$
 " from Table line A, B, (corrected for absence of forecastle if required) 99.175%
 Percentage from Table by interpolation for Bridge less than .2L if required =
 Deduction = $40.2 \times .99175 = 39.86$
 Percentage from Table for Tankers (or Timber ships) =
 Deduction =

Station	Actual Sheer	Standard Sheer	Effective Sheer	S.M.	Product
18-24 A.P.	33.00	47.30	47.30	1	47.30
8-11 1/2 L from A.P.	14.25	21.05	21.05	4	84.20
2-03 1/2 L from A.P.	3.75	5.20	5.20	2	10.40
0 Amidships	-	-	-	4	0
2-03 1/2 L from F.P.	8.00	10.41	10.03	2	20.06
8-11 1/2 L "	32.50	42.10	40.61	4	162.44
18-24 F.P.	72.00	94.60	90.24	1	90.24
				18	414.64
Effective Mean Sheer	= 23.036				
Standard " " .05L + 5	= 23.65				
Difference	= .614				

Sheer Correction = Difference $\times \left(75 - \frac{S}{2L}\right) = .614 \times .25 = .1535$ ON.
 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 = 63.3

Correction for co-efficient = $\frac{1.3384}{1.36} = 65.10$ DRAUGHTS AND SEASONAL CORRECTIONS

	+	-		
Depth correction	-	.24	Depth to Freeboard Deck in feet	24.782
Deduction for superstructures	-	39.86	Summer Freeboard in feet	2.096
Sheer correction	.15	-	Moulded Draught (d)	22.686
Round of Beam correction	-	-	Addition for Keel	.12
Correction for thickness of deck amidships	-	-	Extreme draught	22.912
Other corrections, scantlings, etc.	-	-		
	.15	40.10		
Summer Freeboard in inches	= 25.15		Deduction for Tropical and addition for Winter freeboard $d/4 = 5.6715$ ins.	
Additional allowance for superstructures on Timber carrying ships	= 5.6715		Addition for Winter North Atlantic (if required)	= " ins.
Summer Timber Freeboard in inches	= 30.8215		Deduction for Tropical Timber Freeboard $d/4$	= " ins.
	= 19.4785		Addition for Winter " " $d/3$	= " 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

SHIP'S NAME SM "SANGARA"
 Nationality and Port of Registry BRITISH, LIVERPOOL

OFFICIAL NUMBER 166270

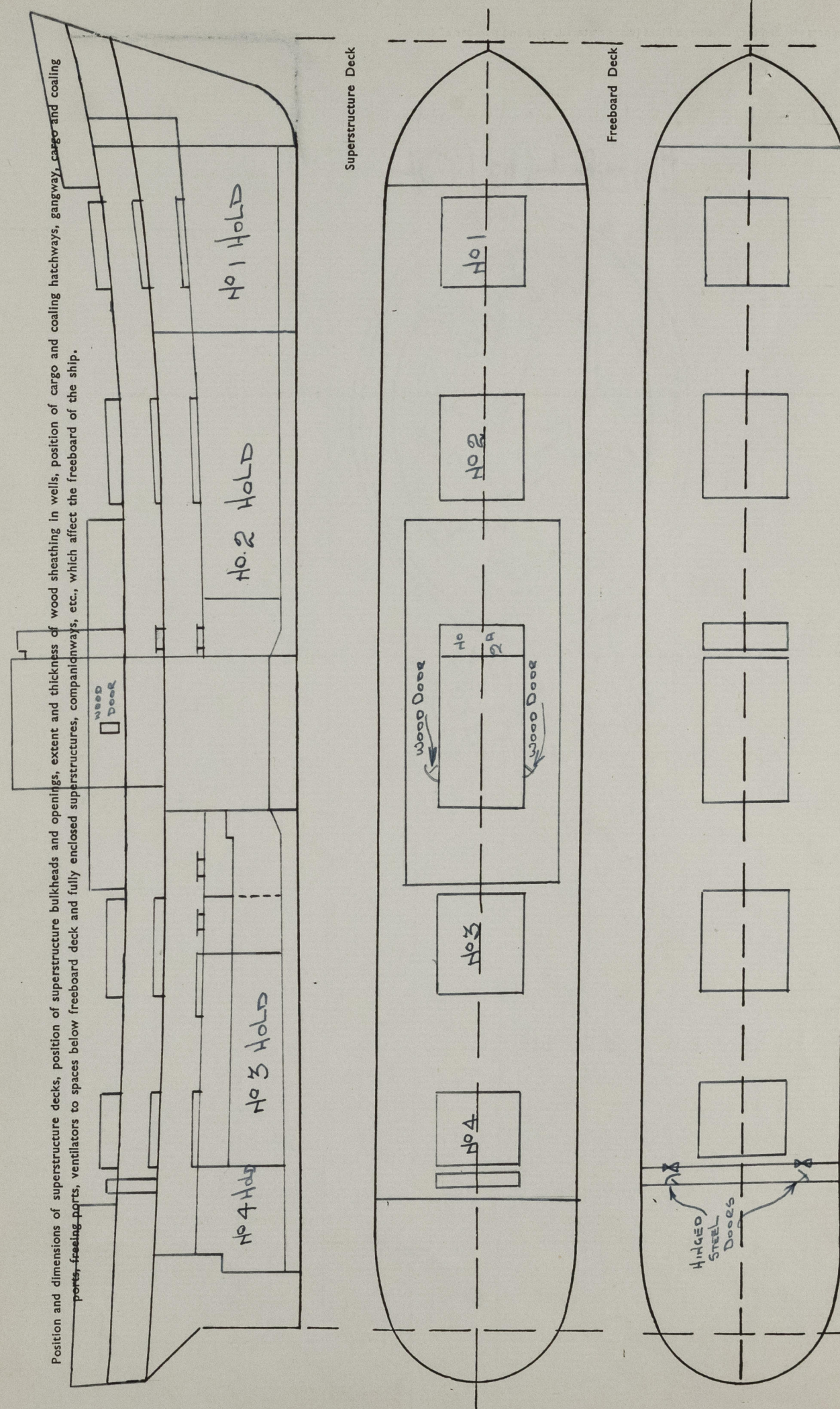
PARTICULARS OF SUPERSTRUCTURES, TRUNKS, CASINGS, DECKHOUSES								
Coaming	Plating	Stiffeners	Spacing	End Attachments	No. and size of Openings	Height of Sills	Height of Casings	
Poop Bulkhead	.3	.3	2 1/2" FLANGE AST. 36"	NONE	2 @ 5'6" x 3'7"	15"	8'9"	
R.Q.D. "								
Bridge Aft Bulkhead	.3	.3	2 1/2" FLANGE AST. 36"	NONE	2 @ 5'0" x 3'1"	15"	8'9"	
" Forward "								
Forecastle Bulkhead								
Trunk, Aft								
" 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	.37	.26	3 1/2" x 2 1/2" x 25	30"	NONE	15"	8'0"	
Deckhouses on flush deck ships								

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

Poop Bulkhead	Hinged steel doors
R.Q.D. "	
Bridge Aft Bulkhead	Weatherboards full height in channels riveted to bulkhead.
" Forward "	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or R.Q. decks	
Exposed Machinery Casings on superstructure decks	Hinged wood doors P&S
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					
State whether freeing ports are fitted with shutters, bars or rails, and give particulars					
Give particulars of freeing port area, etc., on superstructure decks					



PARTICULARS OF ALL HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Number and description of Hatchway	Height of steel deck above wood deck	Thickness of Sides	Stiffeners	Brackets or Sills	Number	Spacing	Scantling and Sketch	Bearing Surface and Bearing of Carriers or sockets	Number of Tarpaulins
COAMINGS									
HATCH BEAMS									
FORE AND AFTERS									
HATCH COVERS									
HATCH SURFACES									

Are tarpaulins in good condition and in accordance with rule requirements? YES
 Are lashings provided in accordance with rule requirements? (LOCKING BARS) YES
 Are wood fore and afters steel shod at all bearing surfaces? YES
 Are battens and wedges efficient and in good condition? YES

Give full particulars of the following :—

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

18'6" above shelter deck. No fiddle openings
Steel skylight over engines.

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

None

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)

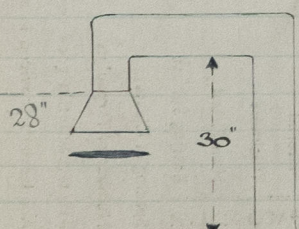
None

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)

30" coamings. All thicknesses to Rule requirements. Pitches of rivets - 4 dias.
Plugs and canvas covers.

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

30" on Shelter Deck. Canvas covers
Gauge fitted at mouths of air pipes from fuel tanks.



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

Discharges from Shelter Deck, fitted with 3 v.

5" S.V. P&S in Tonnage Well geared to shelter 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)

Steel bulwarks all fore and aft.

Gangways and Lifelines

Lifelines - S.W.R. set up with screws to casings

Gangway, Cargo and Coaling Ports in sides of ship

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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Lloyd's Register
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