

Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Disconnected erections

Port of Survey Newcastle-on-Tyne

Date of Survey 9th May 1932

Name of Surveyor J. Macdonald

Particulars of Classification 100 A1

Carrying petrol in bulk

Ship's Name  
BRITISH ENERGY.Nationality and Port of  
Registry  
British  
LondonOfficial Number  
162588Gross Tonnage  
7209Date of Build  
1931-5Moulded Dimensions: Length 439.2 ✓ Breadth 59.25 ✓ Depth 33.0 ✓  
Moulded displacement at moulded draught = 85 per cent. of moulded depth  
Coefficient of fineness for use with Tables 782

## Depth for Freeboard (D)

Moulded depth ... 33.00  
Stringer plate ... 06  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$   
Depth for Freeboard (D) = 33.06

## Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R =  
 $(33.06 - 29.28) \times 3 = 11.34$   
(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R =  
If restricted by superstructures ✓

## Round of Beam correction

Moulded Breadth (B) 59.25  
Standard Round of Beam =  $\frac{B \times 12}{50} = 14.22$   
Ship's Round of Beam = 14.56 ✓  
Difference 34  
Restricted to  
Correction =  $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{34^2}{4} \times 0.5388 = -0.05$ 

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	107.4	107.40	8-0	✓	107.40
overhang ...	6.0	3.00			3.00
R.Q.D. enclosed ...					
overhang ...					
Bridge enclosed ...	36.5	36.50	8-0	✓	36.50
overhang aft ...	3.25	2.44			2.44
overhang forward ...	3.25	1.62			1.62
Forecastle enclosed ...	46.62	51.80	8-0	✓	51.80
overhang ...	9.17	1.99			1.99
Trunk aft ...					
forward ...					
Tonnage opening aft ...					
forward ...					
Total ...	212.19	204.75			204.75

Standard Height of Superstructure 7.5  
R.Q.D. ✓  
Deduction for complete superstructure 42.00  
Percentage covered  $\frac{S}{L} = 48.32$   
 $\frac{S_1}{L} = 46.62$   
 $\frac{E}{L} = 46.62$   
Percentage from Table, Line A. Tanker 37.622  
(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 =  $42 \times 37.62 = -15.80$ 

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	53.92	1	53.92	61.00	61.00	1	61.00
$\frac{1}{2}$ L from A.P. ...	24.00	4	96.00	26.46	26.46	4	105.84
$\frac{2}{3}$ L " ...	5.93	2	11.86	6.60	6.60	2	13.20
Amidships ...	-	4	-	-	-	4	-
$\frac{2}{3}$ L from F.P. ...	11.86	2	23.72	13.00	13.00	2	26.00
$\frac{1}{2}$ L " ...	47.99	4	191.96	52.14	52.14	4	208.56
F.P. ...	107.84	1	107.84	120.00	120.00	1	120.00
Total ...			485.30				534.60

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( 75 - \frac{S}{2L} \right) = \frac{49.30}{18} \times (75 - 24.6) = -139$ 

If limited on account of midship superstructure.

Mean actual sheer aft = excess  
Mean standard sheer aftMean actual sheer forward = excess  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = } Tanker.  
aft of " = }

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 33.06  
Summer freeboard = 5.98  
Moulded draught (d) = 27.08

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.77 = 6  $\frac{3}{4}$ Addition for Winter North Atlantic Freeboard (if required) = 4.39 = 4  $\frac{1}{2}$ 

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 15700$ 

Tons per inch immersion at summer load water line

T = 52.76

Deduction =  $\frac{\Delta}{40T}$  inches= 7.44 = 7  $\frac{1}{2}$ 

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... 11.34  
Deduction for superstructures ... 15.80  
Sheer correction ... 1.39  
Round of Beam correction ... 05  
Correction for Thickness of Deck amidships ...  
Other corrections, scantlings, etc. ...

Summer Freeboard = 7.82

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

Tropical Fresh Water Line above Centre of Disc ... 14  $\frac{1}{4}$ "  
Fresh Water Line " " ... 7  $\frac{1}{2}$ "  
Tropical Line " " ... 6  $\frac{3}{4}$ "  
Winter Line below " " ... 6  $\frac{3}{4}$ "  
Winter North Atlantic Line " " ... 11  $\frac{1}{4}$ "Tropical Fresh Water Freeboard ... 5  $\frac{1}{4}$ "  
Fresh Water " ... 4  $\frac{9}{16}$ "  
Tropical " ... 5  $\frac{5}{16}$ "  
Winter " ... 6  $\frac{1}{2}$ "  
Winter North Atlantic " ... 6  $\frac{1}{2}$ "



PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
<div> <div>on upper deck</div> <div>on fore-castle</div> <div>on poop deck</div> </div>									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	2'-6"	12'-3 1/2'-4 1/2'	1'-6"	2'-6"	2'-6"	2'-6"	2'-6"
	Thickness	{ Sides	.44	.45	.40	.38	.40	.38	.38
	Thickness	{ Ends	.44	.45	.40	.38	.40	.38	.38
	Stiffeners	angle	6 x 3 = 144						
HATCH BEAMS	Brackets, Stays	...	-	-	-	-	-	-	-
	Number	...	✓	✓	✓	✓	✓	✓	✓
	Spacing	...	✓	✓	✓	✓	✓	✓	✓
	Scantling and Sketch	...							
FORE AND AFTERS	Bearing Surface	...							
	Number	...	✓	✓	✓	✓	✓	✓	✓
	Spacing	...	✓	✓	✓	✓	✓	✓	✓
	Unsupported Lengths	...							
HATCH COVERS	Scantling* and Sketch	...							
	Bearing Surface	...							
	Material	...	Steel	Steel	Steel	Steel	Steel	Wood	Wood
	Thickness	...	.56 with	.625	.625	.60	.45	2 1/2"	2 1/2"
HATCH COVERS	How fitted	...	5 x 3 = 40	oil tight	oil tight	W.T.	oil tight	solid	solid
	Bearing Surface	stiffeners	2 1/4" apart					2"	2"
	Spacing of Cleats	...	✓	✓	✓	✓	✓	24"	24"
	Number of Tarpaulins	...	✓	✓	✓	✓	✓	2	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes.</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes.</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes.</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes.</i></p>									

Particulars of fiddle, funnel and ventilator coamings:— Stokehold gratings covered by strong steel hinged covers. ✓  
 Fiddle funnel ventilators in efficient condition. Engine skylight of steel strongly constructed. ✓

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:— Steel houses on upper deck to forward aft pump rooms 6'-6" high, steel W.T. doors with 18" sills, doors operated from both sides. ✓  
 Steel house on poop deck (entrance to accommodation in poop space) 8'-0" high, steel doors with 18" sills, doors operated from both sides. ✓

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— All ventilators are constructed in accordance with the Rules and coamings closed with wood plugs canvas covers. ✓  
 11 vents on fore deck 9" dia., coamings 33" high led to crew fore peak. ✓  
 6 " " " 8" " " " 33" " " " hold fore space. ✓  
 4 " " " 2 1/2" " " " 33" " " " ballast pump room. ✓  
 1 " " " 12" " " " 33" " " " fore pump room and 2 led to aft pump room, coaming 6'-6" star. ✓  
 2 " " upper " 21" " " " 36" " " " poop space and 5 @ 8" dia. to accommodation. ✓  
 2 " " poop " 12" " " " 30" " " " accommodation & E space fore @ 16" coaming 33" high led to E. Sp. ✓  
 2 " " " 18" " " " 30" " " " "

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—  
 1 Goose-neck iron air pipe on fore-castle deck 19" high x 6 1/2" dia. and 2 @ 22" high x 4" dia. from fore peak fore deep. ✓  
 4 " " " upper " 30" " x 4 1/2" " from cofferdams. ✓  
 1 " " " bridge " 30" " x 6" " bridge space. ✓  
 1 " " " " " 27" " x 3 1/2" " oil fuel space. ✓  
 1 " " " " " 30" " x 2 1/2" " lubricating tank etc. ✓  
 1 " " " " " 28" " x 6" " aft peak. ✓  
 Satisfactory means are provided for closing the air pipes.

Particulars of Gangway Cargo and Coaling Ports:—



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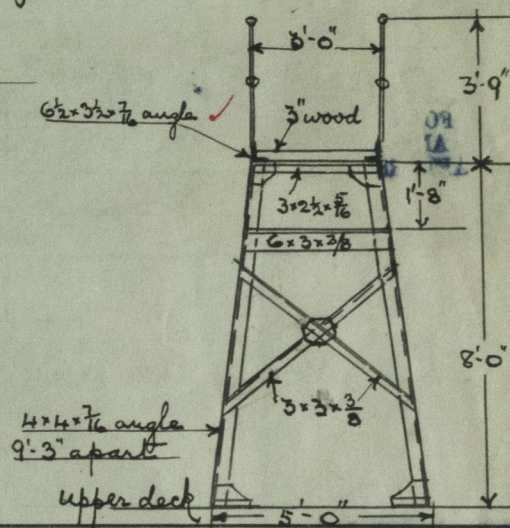


Discharges from midship accommodation on bridge fitted with storm valves discharging above U. D. ✓  
 2 scuppers " " boat deck " without " " " " below U. D. ✓  
 Discharges " " poop and forecabin accommodation " with " " " " " " ✓  
 All storm valves of brass. ✓

Side scuttles in crew spaces to inside poop, bridge and fore-castle are provided with hinged deadlights. ✓

Particulars of Guard Rails:— On poop deck 3'-6" high, having 3 rods & stanchions spaced 4'-3" apart. ✓  
 " forecastle " 3'-9" " " 3 " " " 4'-0" " ✓  
 " Bridge " 3'-9" " , bulwark plating efficiently stayed. ✓

• Gangways fitted from poop to bridge and bridge to fore-castle ✓  
with angle supports as per sketch and having stanchions ✓  
and 2 steel wire ropes as indicated. ✓



### 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 ... ..	123.68 ✓	4.0 ✓	<i>Open rails for 66'-0"</i> <del>Open rails being</del> <i>fitted as indicated ✓</i> <i>Open rails for 53'-6"</i> <i>on sketch.</i>			
Forward Well ... ..	99.0 ✓	4.0 ✓				

State position of each freeing port ... .. After Well :—  
(F. and A. position and height above deck edge) 11 1/2' Forward Well :— } See sketch.

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

Additional area where sheer is less than standard.

## Particulars of Superstructures, Trunks, Casings, Deckhouses.

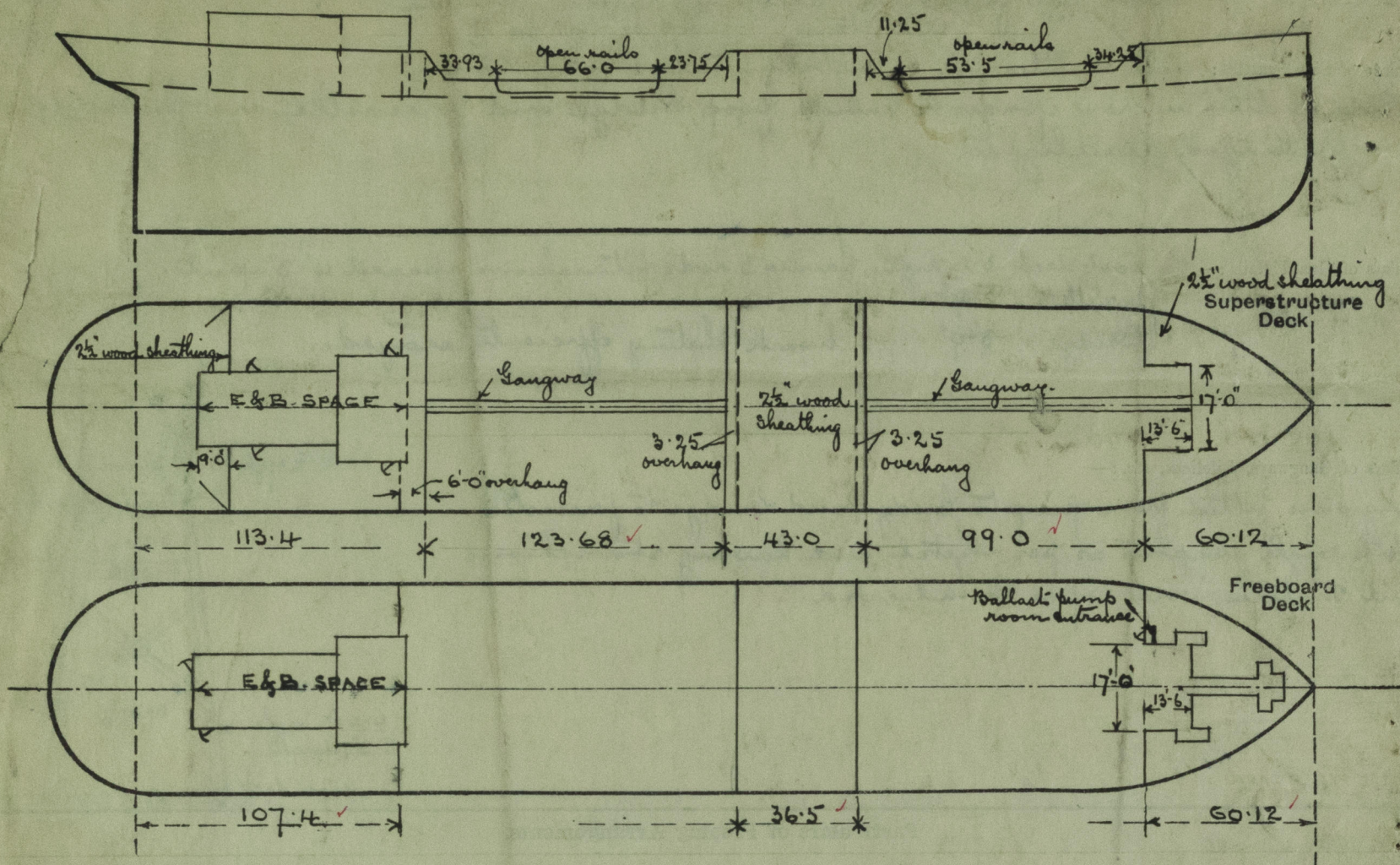
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Coop Bulkhead ... ..	44 ✓	40 ✓	10 × 3½ × 46 ✓	30" ✓	Lugs	2 @ 14'-1" × 3'-1" ✓	21" ✓	8'-0" ✓
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	30 ✓	30 ✓	3 × 3 × 30 ✓	31½" ✓	-	5'-0" × 4'-1" ✓	18" ✓	8'-0" ✓
Bridge, Forward Bulkhead ... ..	40 ✓	38 ✓	9 × 3½ × 46 ✓ (and vertical webs)	33" ✓	Brackets	5'-0" × 3'-0" ✓	19" ✓	8'-0" ✓
Forecastle Bulkhead ... ..	-	30 ✓	3 × 3 × 30 ✓	33" ✓	-	4'-3" × 2'-3" ✓	18" ✓	8'-0" ✓
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free- board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super- structure Decks ... ..	30 ✓	28 ✓	4 × 3 × 30 ✓	27" ✓	-	5'-0" × 2'-3" ✓	18" ✓	8'-0" ✓
Machinery Casings within Superstruc- tures not fitted with Class I Closing Appliances ... ..	30 ✓	28 ✓	4 × 3 × 30 ✓	27" ✓	-	4'-9" × 1'-10" ✓	18" ✓	8'-0" ✓
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead ... ..	Steel bolted plate - bolts 12½" apart. ✓
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ... ..	3" wood shifting boards in permanent channels, full height.
Bridge, Forward Bulkhead ... ..	Steel W.T. door, operated from both sides. ✓
Forecastle Bulkhead ... ..	One steel W.T. door to ballast pump room two wood doors to crew spaces, all operated from both sides. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks ... ..	4 steel doors, operated from both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	2 steel doors, operated from both sides. ✓
Deckhouses on Flush Deck Ships ...	

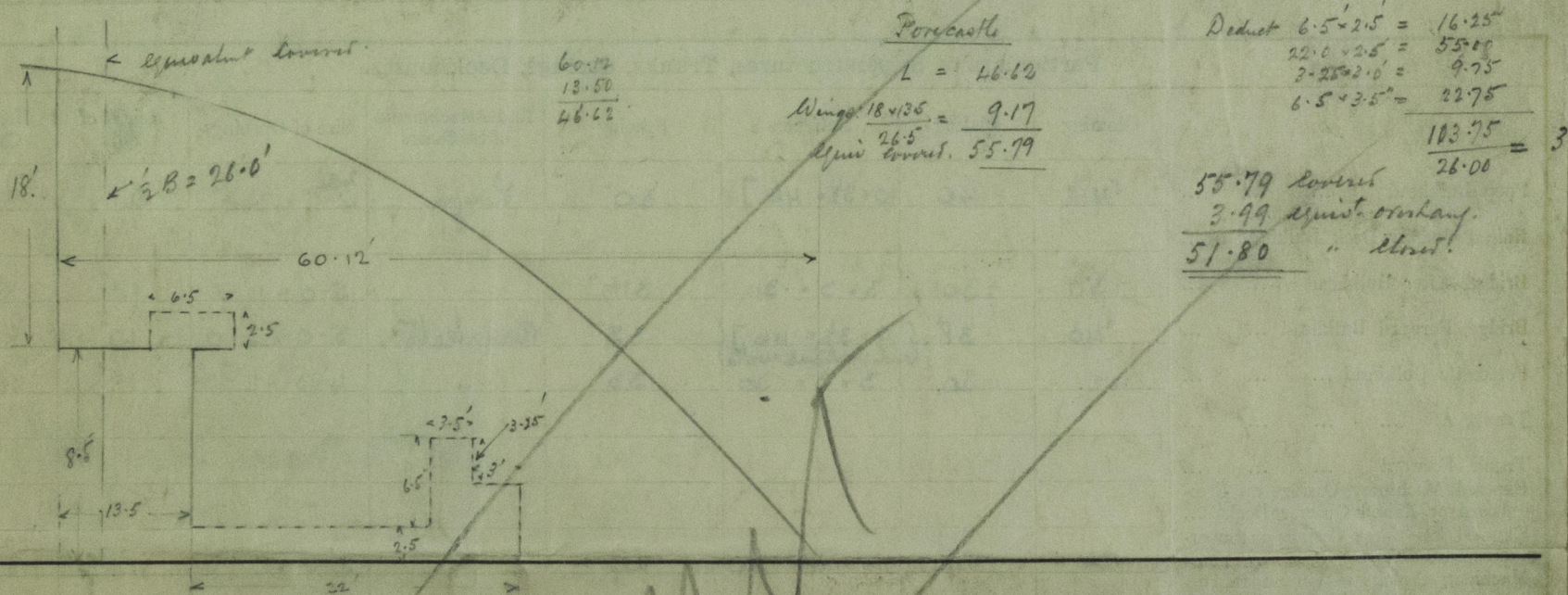


Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



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

Extreme Displacement		Tons per inch	
26'-0" draught	= 15009 tons	=	52.12
27'-0" "	= 15634 "	=	52.30
28'-0" "	= 16263 "	=	52.47



Builder's name and yard number Greenock Dockyard Co Ltd.

Names of sister ships

Owners British Tanker Co Ltd.

Fee £ 15 : 6 : 0

Received by me