

20 MAR 1937

26008

Index. No.  
(For London Office only.)

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# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

No. 108629.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *poop, bridge, funnel and trunk.*Port of Survey *Birkenhead*Date of Survey *March 1937*Name of Surveyor *A.S. Jackson**ATHELMERE*

(Type of Superstructures.)

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

*REALF**British  
London**42613**5599  
5566**1918/19*Moulded Dimensions: Length *399.6* ✓ Breadth *52.0* Depth *31.0* ✓Moulded displacement at moulded draught = 85 per cent. of moulded depth *12010* tonsCoefficient of fineness for use with Tables *.768*Particulars of Classification *100 A1 - Carrying oil fuel in bulk 7.5 ft. above 150° fitted for oil fuel 8.18 ft. above 150° SS Reg. No. 3.21.*

## Depth for Freeboard (D)

Moulded depth ... *31.00*Stringer plate ... *.04*

Sheathing on exposed deck

 $T \left( \frac{L-S}{L} \right) =$ Depth for Freeboard (D) = *31.04*

## Depth correction

(a) Where D is greater than Table depth  
(D - Table depth) R = $(31.04 - 26.64) 3 = + 13.20"$ (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) *52.0'*Standard Round of Beam =  $\frac{B \times 12}{50} = 12.48"$ Ship's Round of Beam = *13"*Difference = *.52"*

Restricted to

Correction =  $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.52}{4} \times .21 = -.03"$ 

## DEDUCTION FOR SUPERSTRUCTURES.

|                         | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height          | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|--|-----------------|-------------------|----------------------|
| Poop enclosed ...       | <i>49.4</i>             | <i>49.40</i>                                 | <i>7.5-7.25</i> | <i>7.25/4.496</i> | <i>47.78</i>         |
| " overhang ...          |                         |  |                 |                   |                      |
| R.Q.D. enclosed ...     |                         |  |                 |                   |                      |
| " overhang ...          |                         |  |                 |                   |                      |
| Bridge enclosed...      | <i>121.0</i>            | <i>121.00</i>                                | <i>7.5</i>      | <i>x .90</i>      | <i>108.90</i>        |
| " overhang aft ...      |                         |  |                 |                   |                      |
| " overhang forward      |                         |  |                 |                   |                      |
| F'cle enclosed ...      | <i>39.0</i>             | <i>39.00</i>                                 | <i>7.5-6.5</i>  | <i>6.5/4.496</i>  | <i>33.82</i>         |
| " overhang              | <i>56.08</i>            | <i>56.08</i>                                 | <i>7.5</i>      | <i>x .90</i>      | <i>45.07</i>         |
| Trunk aft               | <i>56.19</i>            | <i>56.19</i>                                 | <i>7.5</i>      |                   | <i>56.19</i>         |
| " forward               |                         |  |                 |                   |                      |
| Tonnage opening aft ... |                         |  |                 |                   |                      |
| " " forward             |                         |  |                 |                   |                      |
| Total ...               | <i>209.40</i>           | <i>315.67</i>                                |                 |                   | <i>291.76</i>        |

Standard Height of Superstructure *4.496'*

" " R.Q.D. ✓

Deduction for complete superstructure *41.97"*Percentage covered  $\frac{S}{L} = 52.41$ "  $\frac{S_1}{L} = 79.00$ "  $\frac{E}{L} = 73.02$ Percentage from Table, Line A. TANKER = 66.71  
(corrected for absence of fore-castle (if required))Percentage from Table, Line B. ✓  
(corrected for absence of fore-castle (if required)) ✓

Interpolation for bridge less than 2L (if required) ✓

Deduction =  $41.97 \times .6671 = 28.00"$ 

## SHEER CORRECTION.

| Station                       | Standard Ordinate | S M | Product       | Actual Ordinate | Effective Ordinate | S M | Product       |
|-------------------------------|-------------------|-----|---------------|-----------------|--------------------|-----|---------------|
| A.P. ...                      | <i>49.96</i>      | 1   | <i>49.96</i>  | <i>48.00</i>    | <i>48.00</i>       | 1   | <i>48.00</i>  |
| $\frac{1}{2}$ L from A.P. ... | <i>22.23</i>      | 4   | <i>88.92</i>  | <i>9.80</i>     | <i>9.80</i>        | 4   | <i>39.20</i>  |
| $\frac{2}{3}$ L " ...         | <i>5.50</i>       | 2   | <i>11.00</i>  | -               | -                  | 2   | -             |
| Amidships ...                 | -                 | 4   | -             | -               | -                  | 4   | -             |
| $\frac{3}{4}$ L from F.P. ... | <i>10.99</i>      | 2   | <i>21.98</i>  | -               | -                  | 2   | -             |
| $\frac{1}{2}$ L " ...         | <i>44.46</i>      | 4   | <i>177.84</i> | <i>16.80</i>    | <i>16.80</i>       | 4   | <i>67.20</i>  |
| F.P. ...                      | <i>99.92</i>      | 1   | <i>99.92</i>  | <i>90.00</i>    | <i>90.00</i>       | 1   | <i>90.00</i>  |
| Total ...                     |                   |     | <i>449.62</i> |                 |                    |     | <i>244.40</i> |

Mean actual sheer aft = *Deficient*  
Mean standard sheer aftMean actual sheer forward = *Deficient*  
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = } *Tanker.*  
" " aft of " = }Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{205.22}{18} (.45 - .2620) = + 5.56"$ 

If limited on account of midship superstructure. ✓

If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft. ✓

## Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *31.04*Summer freeboard = *4.77*Moulded draught (d) = *26.27*

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *6.57 = 6\frac{1}{2}"*Addition for Winter North Atlantic Freeboard (if required) =  $6.57 + 3.996 = 10.566 = 10\frac{1}{2}"$ 

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 12020$ 

Tons per inch immersion at summer load water line

 $T = 42.0$ Deduction =  $\frac{\Delta}{40T}$  inches=  $7.15 = 7\frac{1}{4}"$ 

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

Correction for coefficient  $\frac{.768 + .68}{1.36} = 1.448$ Depth Correction ... *13.20*Deduction for superstructures ... *28.00*Sheer correction ... *5.56*Round of Beam correction ... *.03*

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

*62.41**66.44**87.8**23-3-37**18.46**28.03**- 9.27**Summer Freeboard = 54.17*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck :-

|  |                           |                                    |                              |
|--|---------------------------|------------------------------------|------------------------------|
| Tropical Fresh Water Line above Centre of Disc ... | <i>13\frac{3}{4}" 349</i> | Tropical Fresh Water Freeboard ... | <i>3'-9\frac{1}{4}" 1454</i> |
| Fresh Water Line " " ...                           | <i>7\frac{1}{4}" 184</i>  | Fresh Water " " ...                | <i>3'-4\frac{1}{2}" 1105</i> |
| Tropical Line " " ...                              | <i>6\frac{1}{2}" 165</i>  | Tropical " " ...                   | <i>4'-2" 1270</i>            |
| Winter Line below " " ...                          | <i>6\frac{1}{2}" 165</i>  | Winter " " ...                     | <i>5'-3\frac{3}{4}" 1619</i> |
| Winter North Atlantic Line " " ...                 | <i>10\frac{1}{2}" 267</i> | Winter North Atlantic " " ...      | <i>5'-4\frac{3}{4}" 1721</i> |

31 MAR 1937

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Particulars of Scuppers and Sanitary Discharge Pipes:—2 Scuppers from bridge space PT 5 draining overboard, closed

Particulars of Side Scuttles:— 2. ~~in~~ <sup>in</sup> ~~file~~ and ~~poop~~ with ~~no~~ <sup>no</sup> deadlights.  
2. ~~poop~~ <sup>off</sup> ~~Side~~ <sup>one</sup> ~~portlight~~ <sup>portlight</sup> ~~frame~~ <sup>to be renewed</sup>  
~~Broken~~ <sup>Broken</sup> ~~glasses~~ <sup>glasses</sup> ~~to be renewed~~ <sup>to be renewed</sup>. ~~Iron~~ <sup>Iron</sup> ~~truckles~~ <sup>truckles</sup> ~~to be placed in working order~~ <sup>to be placed in working order</sup>.  
~~Rutters~~ <sup>Rutters</sup> ~~to be renewed as necessary~~ <sup>to be renewed as necessary</sup>.

Particulars of Guard Rails:—  
 On poop 37" high, 4' 8" spacing, 2 rods and 1 wire. ✓  
 On trunk, bridge and ficelle, 39" high, 4' 9" spacing, 2 rods. ✓  
 In wells 42" high above deck, 4' 6" spacing, 2 rods, steel stake 1/4" above deck. ✓

Particulars of Gangways, Lifelines, etc.:— *None, trunk top used.* ✓

| 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 ... ..                    |                   | <i>Open rails.</i> |                       |                  |                |                     |
| Forward Well ... ..                  |                   |                    |                       |                  |                |                     |

State position of each freeing port ... .. } After Well:—  
(F. and A. position and height above deck edge) } Forward Well:—

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 fiddle, funnel and ventilator coverings:— Funnel and ventilator coverings on top of casing 4'6" above  
Bridge Dk. in good condition.  
Fiddle gratings covered by loose steel plates, <sup>firmly</sup> ~~permanently~~ attached, which require to be placed in order and  
secured.  
Bunker hatch on fiddle top, wood covers, rest bars and tarpaulin ~~to be removed~~.  
Engine Rm. skylight of steel strongly constructed. ~~Working glasses to renew, work pins and~~  
~~chains to quadrants to place in order. Casing side plating in way of doors to repair.~~

Particulars of Flush Bunker Scuttles:—

none.

Particulars of Companionways:— On poops Pts, 5'6" x 3'0" x 6'0" high, <sup>18"</sup>14" sill, 20" plating, one half round stiffener on each side. Wood door 4'8" x 2'6". ~~Starboard door to be removed and port door placed in order.~~

Steel skylight on poop to messroom. Leak skylight on poop 4'0" x 2'6" opening, 20"-13" above wood deck.

Tunnel escape leading into poop space. Steel door opening from both sides 4'10" x 1'8", <sup>18"</sup>12" sill.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—

|                                  |             |                                |  |                                |
|----------------------------------|-------------|--------------------------------|--|--------------------------------|
| Trille Dk 1-11" diam             | x 36" x 30" | to F.P. store.                 | Popd. 6-8" diam x 9" x 40"                 | to accom. + provision room     |
| Trunk Top Ford.                  | 2-11" diam  | x 36" x 30"                    | to fore. cargo hold.                       | 1-8" " x 24" x 26" to accom. ✓ |
| 1-6" " x 24" x 26"               |             | to pump room.                  | 1-12" " x 18" x 26"                        | store ✓                        |
| Bridge Dk. 2-9" " x 25" x 26"    |             | Cross Bunkal                   | 2-11" " x 24" x 34"                        | " ✓                            |
| 4-12" " x 24" x 38"              |             | Bunkers                        | 1-10" " x 24" x 24"                        | " ✓                            |
| Trunk & pipe 4-11" " x 24" x 26" |             | to fore. cargo hold.           | 11-8" " S.D.M. to accom. + provision room. | ✓                              |
|                                  |             | wood plating and canvas covers | 4-6" " "                                   | ✓                              |

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

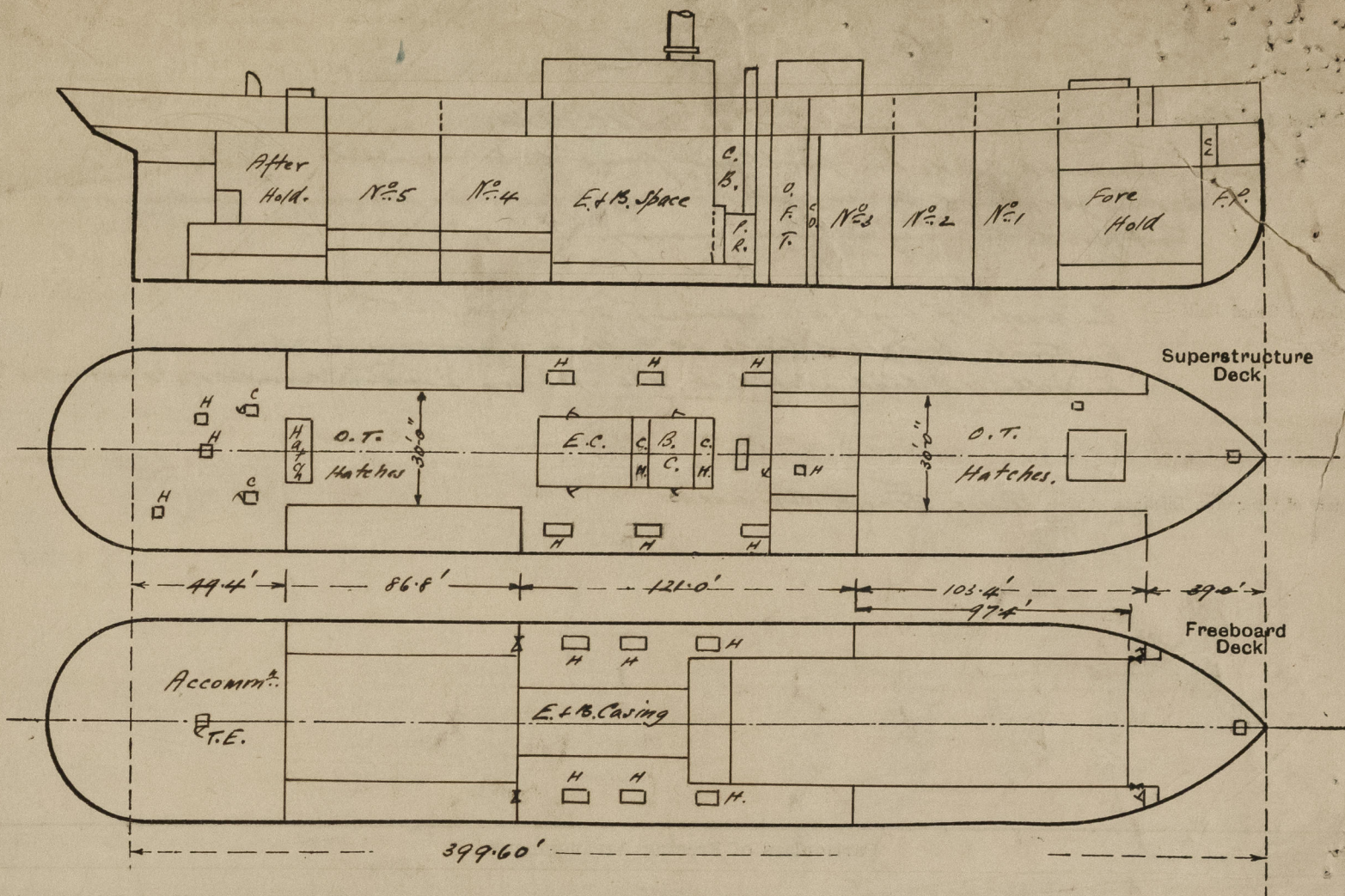
To main tanks on top of keelbars, opening 31" above trunk top. ✓ Wire gauges to remain.  
On bridge &c. from E. & W. tanks opening 6"-12" above deck. ✓  
Efficient means of closing provided.

Particulars of Gangway Cargo and Coaling Ports:— *None.*

| Particulars of Superstructures, Trunks, Casings, Deckhouses.  |   |         |                        |                          |                                 |                         |                 |                   |  |
|---|---|---------|------------------------|--------------------------|---------------------------------|-------------------------|-----------------|-------------------|--|
|   | Coaming   | Plating | Stiffeners             | Spacing                  | End Attachments of Stiffeners   | Size of Openings        | Height of Sills | Height of Casings |  |
| Poop Bulkhead ... ..  | ✓   | 40" ✓   | 7"x3"x36L ✓            | 33" ✓                    | Bkt. 2x13 ✓                     | none                    | ✓               | 7'6"              |  |
| Raised Quarter Deck Bulkhead ...  | ✓   | ✓       | ✓                      | ✓                        | ✓                               | ✓                       | ✓               | ✓                 |  |
| Bridge, After Bulkhead ... ..   | ✓   | 48" ✓   | 4"x3"x40L ✓            | 34" ✓                    | Bkt. 2x13 ✓                     | 5'0"x3'0"               | 20"             | 7'6"              |  |
| Bridge, Forward Bulkhead ... ..   | ✓   | 48" ✓   | 8"x5"x50B ✓            | 40"-46"                  | Bkt. 2x13 ✓                     | none                    | ✓               | 7'6"              |  |
| Forecastle Bulkhead ... <i>Forecastle</i>   | none  | 30" ✓   | 3 1/2"x3"x40L ✓        | 28"-30" ✓                |                                 | 4'0"x1'11"<br>5'0"x3'4" | 18"<br>18"      | 7'6"-6'6"         |  |
| Trunk, Aft ... ..   | ✓   | ✓       | ✓                      | ✓                        | ✓                               | ✓                       | ✓               | ✓                 |  |
| Trunk, Forward ... ..   | ✓   | ✓       | ✓                      | ✓                        | ✓                               | ✓                       | ✓               | ✓                 |  |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ...   | ✓   | ✓       | ✓                      | ✓                        | ✓                               | ✓                       | ✓               | ✓                 |  |
| Exposed Machinery Casings on Super-structure Decks ... ..   | 32"   | 30" ✓   | 3 1/2"x3"x36L ✓        | 28" ✓                    | large plate stiff every 3" none | 5'0"x2'0"               | 18"             | 7'6"              |  |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..  | none  | 30" ✓   | 1 long. stiff. 7x3x50B | and web spaced 11" apart | ✓                               | none                    | ✓               | 7'6"              |  |
| <i>Pump Room Interm. on B.O.B.</i>  |   |         |                        | side 24"                 |                                 |                         |                 |                   |  |
| Deckhouses on Flush Deck Ships ...  | ✓   | 30" ✓   | 4"x3"x36L ✓            | ends 36-42" ✓            | none                            | 5'0"x2'0"               | 13"             | 6'0"              |  |
| <i>Pump Room Interm. on B.O.B.</i><br>to place in order. Particulars of Closing Appliances (state if capable of being manipulated from both sides). |   |         |                        |                          |                                 |                         |                 |                   |  |
| Poop Bulkhead ... ..  | none No openings.   |         |                        |                          |                                 |                         |                 |                   |  |
| Raised Quarter Deck Bulkhead ...  |   |         |                        |                          |                                 |                         |                 |                   |  |
| Bridge, After Bulkhead ... ..   | Portable steel plates PWS with bolts passing through this plate only and fitted with plate clips 13" apart. |         |                        |                          |                                 |                         |                 |                   |  |
| Bridge, Forward Bulkhead ... ..   | none No openings.   |         |                        |                          |                                 |                         |                 |                   |  |
| Forecastle Bulkhead ... <i>Forecastle</i>   | steel door PWS opening from both sides to lamp room & boson store.  |         |                        |                          |                                 |                         |                 |                   |  |
| Exposed Machinery Casings on Free-boards or Raised Quarter Decks ...  | wood shifting boards (3") full height in riveted angles & attached to place in order.                       |         |                        |                          |                                 |                         |                 |                   |  |
| Exposed Machinery Casings on Super-structure Decks ... ..   | Steel doors PWS to E & F spaces opening from both sides. Coaming plates add.                                |         |                        |                          |                                 |                         |                 |                   |  |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..  | No openings. ✓  |         |                        |                          |                                 |                         |                 |                   |  |
| <i>Pump Room Interm. on B.O.B.</i>  |   |         |                        |                          |                                 |                         |                 |                   |  |
| Deckhouses on Flush Deck Ships ...  | Steel door opening from both sides, door lock to place in order.  |         |                        |                          |                                 |                         |                 |                   |  |



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:—

Hatches continued from page 2: Hatches to main tanks O.T. on top of trunk. Butterfly valve to access to S.P. store on upper deck inside frame 2'11" x 2'11", 9" B.A. coaming, 2 1/2" wood covers (thick), 2 3/4" bearing surface, no cleats. Coal shoot hatch on casing top 4'4" x 16'6", 6" B.A. coaming, 2 1/2" wood covers (7. & B), 3" bearing, cleats 2 1/2" apart, 2 tarpaulins. (see note under Fiddle, funnel coamings) On bridge deck inside deckhouse leading down to store 2'4" x 2'4" flush with wood covers, door in after end of deckhouse leading to this of wood 4'10" x 2'3", 10" sill. The cargo hatchways on trunk top giving access to forward and after cargo holds, the pump room hatchway on trunk top, and the bunkers hatchways on the freeboard deck in bridge space have now been provided with efficient steel W.T. covers, 120 lbs. per sq. ft. letter "F" 7/12/5/36 and plan for "HIRD". The requirements of a St. No. 3 are being carried out at this time, the vessel No. 107246 Rpt. having been laid up. W.T. doors to bridge erection front to place in order on superstructure

Builder's name and yard number Armstrong Whitworth & Co. Ltd.

Names of sister ships "Hird" & "Solna"

Owners United Molasses Co. Ltd.

Fee £ 16 : 0 : 0

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