

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

18 MAY 1932

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having FILE BRIDGE R.Q.D. Poop Port of Survey NEWCASTLE-ON-TYNE

(Type of Superstructures.)

Date of Survey 16TH MAY. 32

| Ship's Name | Nationality and Port of Registry | Official Number | Gross Tonnage | Date of Build |
|--------------------|----------------------------------|-----------------|---------------|---------------|
| <u>HORNCHURCH.</u> | <u>BRITISH LONDON.</u> | <u>143340</u> | <u>2162</u> | <u>1919-7</u> |

Name of Surveyor John A. Lawson

Particulars of Classification +100A1.

Moulded Dimensions: Length 280 ✓ Breadth 40.25 ✓ Depth 20.75 ✓

Moulded displacement at moulded draught = 85 per cent. of moulded depth 4415 tons

Coefficient of fineness for use with Tables .777

| Depth for Freeboard (D) | Depth correction | Round of Beam correction |
|---|--|---|
| Moulded depth <u>20.75</u> | (a) Where D is greater than Table depth (D - Table depth) R = <u>(20.75 - 18.67) 2.154 = 4.57.</u> | Moulded Breadth (B) <u>40.25</u> |
| Stringer plate <u>.04</u> | (b) Where D is less than Table depth (if allowed) (Table depth - D) R = | Standard Round of Beam = $\frac{B \times 12}{50} = 9.66$ |
| Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ | If restricted by superstructures | Ship's Round of Beam = <u>10.</u> |
| Depth for Freeboard (D) = <u>20.79.</u> | | Difference <u>.34</u> |
| | | Restricted to |
| | | Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.34}{4} \left(1 - \frac{.3012}{.3} \right) = .03.$ |

DEDUCTION FOR SUPERSTRUCTURES.

| | Mean Covered Length (S) | Equivalent Enclosed Length (S ₁) | Height | Height Correction | Effective Length (E) |
|----------------------------------|-------------------------|--|--------------|-------------------|----------------------|
| Poop enclosed | <u>22.67</u> | <u>22.67</u> | <u>7'-0"</u> | | <u>22.67</u> |
| " overhang | | | | | |
| R.Q.D. enclosed | <u>94</u> ✓ | <u>94.00</u> | <u>4'-0"</u> | <u>4.4</u> | <u>85.45</u> |
| " overhang | | | | | |
| Bridge enclosed | <u>52</u> ✓ | <u>52.00</u> | <u>7'-0"</u> | | <u>52.00</u> |
| " overhang aft | | | | | |
| " overhang forward | | | | | |
| Fore enclosed <u>open</u> | <u>27</u> ✓ | <u>27.00</u> | <u>7'-0"</u> | | <u>27.00</u> |
| " overhang | | | | | |
| Trunk aft | | | | | |
| forward | | | | | |
| Tonnage opening aft | | | | | |
| " forward | | | | | |
| Total | <u>195.67</u> | <u>195.67</u> | | | <u>187.12</u> |

Standard Height of Superstructure 6.3

" " R.Q.D. 4.4

Deduction for complete superstructure 34

Percentage covered $\frac{S}{L} = 69.87.$

" " $\frac{S_1}{L} = 69.87.$

" " $\frac{E}{L} = 66.82.$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B. 57.59
(corrected for absence of forecastle (if required))

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

Deduction = -19.58

SHEER CORRECTION.

| Station | Standard Ordinate | S | M | Product | Actual Ordinate | Effective Ordinate | S | M | Product |
|----------------------------------|-------------------|---|---|---------------|-----------------|--------------------|---|---|---------------|
| A.P. | <u>38.0</u> | 1 | | <u>38.00</u> | <u>48</u> | <u>48.00</u> | 1 | | <u>48.00</u> |
| $\frac{1}{4}$ L from A.P. | <u>16.91</u> | 4 | | <u>67.64</u> | <u>22</u> | <u>22.12</u> | 4 | | <u>88.48</u> |
| $\frac{3}{4}$ L " | <u>4.18</u> | 2 | | <u>8.36</u> | <u>52</u> | <u>5.53</u> | 2 | | <u>11.06</u> |
| Amidships | <u>✓</u> | 4 | | <u>✓</u> | <u>✓</u> | <u>✓</u> | 4 | | <u>✓</u> |
| $\frac{3}{4}$ L from F.P. | <u>8.36</u> | 2 | | <u>16.72</u> | <u>10</u> | <u>10.07</u> | 2 | | <u>20.14</u> |
| $\frac{1}{4}$ L " | <u>33.82</u> | 4 | | <u>135.28</u> | <u>404</u> | <u>40.29</u> | 4 | | <u>161.16</u> |
| F.P. | <u>76.00</u> | 1 | | <u>76.00</u> | <u>90</u> | <u>90.00</u> | 1 | | <u>90.00</u> |
| Total | | | | <u>342.00</u> | | | | | <u>418.84</u> |

Mean actual sheer aft = Correct

Mean standard sheer aft =

Mean actual sheer forward = Correct

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = 1.06

" " aft of " = .50

RETAIN

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{76.84 - 75.3493}{18} = -1.71.$

If limited on account of midship superstructure.

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

| <p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>20.79</u></p> <p>Summer freeboard = <u>2.06</u></p> <p>Moulded draught (d) = <u>18.73</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4.68</u> <u>4.3</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) =</p> | <p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = 4,739$</p> <p>Tons per inch immersion at summer load water line</p> <p>$T = 23$</p> <p>Deduction = $\frac{\Delta}{40T}$ inches = <u>5.14</u> <u>5.4</u></p> <p>20'-0" 6020 = 23.11 Tons/1</p> <p>19'-0" 4762 = 23.0</p> <p>18'-0" 4500 = 22.9</p> <p>17'-0" 4225 = 22.75</p> | <p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <u>1.36</u></p> <table border="1"> <tr> <th></th><th>+</th><th>-</th></tr> <tr> <td>Depth Correction</td><td><u>4.57</u></td><td></td></tr> <tr> <td>Deduction for superstructures</td><td></td><td><u>19.58</u></td></tr> <tr> <td>Sheer correction</td><td></td><td><u>1.71</u></td></tr> <tr> <td>Round of Beam correction</td><td></td><td><u>.03</u></td></tr> <tr> <td>Correction for Thickness of Deck amidships</td><td></td><td></td></tr> <tr> <td>Other corrections, scantlings, etc.</td><td></td><td></td></tr> <tr> <td></td><td><u>4.57</u></td><td><u>21.32</u></td></tr> </table> <p>Summer Freeboard = <u>24.72</u></p> | | + | - | Depth Correction | <u>4.57</u> | | Deduction for superstructures | | <u>19.58</u> | Sheer correction | | <u>1.71</u> | Round of Beam correction | | <u>.03</u> | Correction for Thickness of Deck amidships | | | Other corrections, scantlings, etc. | | | | <u>4.57</u> | <u>21.32</u> |
|---|--|---|--|---|---|-------------------------|-------------|--|--------------------------------------|--|--------------|-------------------------|--|-------------|---------------------------------|--|------------|---|--|--|--|--|--|--|-------------|--------------|
| | + | - | | | | | | | | | | | | | | | | | | | | | | | | |
| Depth Correction | <u>4.57</u> | | | | | | | | | | | | | | | | | | | | | | | | | |
| Deduction for superstructures | | <u>19.58</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| Sheer correction | | <u>1.71</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| Round of Beam correction | | <u>.03</u> | | | | | | | | | | | | | | | | | | | | | | | | |
| Correction for Thickness of Deck amidships | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Other corrections, scantlings, etc. | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <u>4.57</u> | <u>21.32</u> | | | | | | | | | | | | | | | | | | | | | | | | |

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

1906 Freeboard assigned

| | |
|---|--|
| Tropical Fresh Water Line above Centre of Disc | |
| Fresh Water Line " " | |
| Tropical Line " " | |
| Winter Line below " " | |
| Winter North Atlantic Line " " | |

| | |
|---------------------------------------|--|
| Tropical Fresh Water Freeboard | |
| Fresh Water " " | |
| Tropical " " | |
| Winter " " | |
| Winter North Atlantic " " | |

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

| HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS | | | | | | | | | | 2 OFF. | | |
|---|-----|-----------------------|-----|-------------------------|-----------------|-----------------|--------------------------|------------------------|-----------------------------|------------------|------------------------|---------------------|
| Description of Hatchway | ... | ... | ... | N°1 | N°2 | N°3 | N°4 | COAL HATCH CASING TOP. | FOR ° ON FBD DECK TO STREE. | ON R.O.D TO C.B. | ON FBD. DECK IN C BAY. | POOP DECK TO STREE. |
| Dimensions of Hatchway | ... | ... | ... | 36'-0" x 26'-7" TAPERED | 37'-0" x 27'-6" | 36'-0" x 27'-0" | 30'-0" x 27'-0" - 24'-0" | 4'-11" x 11'-7" | 3'-0" x 3'-0" | 6'-0" x 3'-0" | 4'-3" x 3'-0" | 3'-0" x 3'-0" |
| COAMINGS | { | Height above Deck | ... | 42 | 42 | 33 | 33 | 7" BA. | 18 | 18 | 3 | 12 |
| | | Thickness | ... | .44 | .44 | .44 | .44 | | .30 | .30 | ANGLE | .34 |
| | | Stiffeners | ... | 7.3 x 40 BA. | | | | | | | | |
| | | Brackets, Stays | ... | 2 | 3 | 3 | 2 | | | | | |
| HATCH BEAMS | { | Number | ... | 5 | 6 | 6 | 5 | | | | | |
| | | Spacing | ... | 5'-0" | 5'-3" | 5'-1" | 4'-10" | | | | | |
| | | Scantling and Sketch | ... | 21-10 1/2 | 23-11 1/2 | 23-11 1/2 | 21-10 1/2 | | | | | |
| | | Bearing Surface | ... | 3 | 3 | 3 | 3 | | | | | |
| FORE AND AFTERS | { | Number | ... | | | | | | | | | |
| | | Spacing | ... | | | | | | | | | |
| | | Unsupported Lengths | ... | | | | | | | | | |
| | | Scantling* and Sketch | ... | | | | | | | | | |
| HATCH COVERS | { | Material | ... | W.P. | W.P. | W.P. | W.P. | W.P. | 1 3/4 GRATING. | W.P. | NONE | W.P. |
| | | Thickness | ... | 2 1/2 | 2 1/2 | 2 1/2 | 2 1/2 | 2 3/4 | | 2 1/2 | | 2 1/2 |
| | | How fitted | ... | F.A. | F.A. | F.A. | F.A. | F.A. | | | | |
| | | Bearing Surface | ... | 3 | 3 | 3 | 3 | 2 1/2 | 2 1/2 | 2 1/2 | | 2 1/2 |
| Spacing of Cleats | ... | ... | ... | 22 | 22 | 22 | 22 | 24 | 20 | 20 | NONE | 20 |
| Number of Tarpaulins | ... | ... | ... | 2 | 2 | 2 | 2 | 2 | 2 | 2 | | 2 |

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

Are battens and wedges efficient and in good condition?

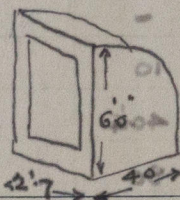
Are tarpaulins in good condition and in accordance with rule requirements?

Are lashings provided in accordance with rule requirements?

Particulars of fiddley, funnel and ventilator coamings:— FIDLEY GRATINGS COVERED BY STRONG STEEL HGD COVERS. ✓
FUNNEL — FIDLEY VENTS IN EFFICIENT CONDITION. ✓
ENGINE SKYLIGHT OF STEEL STRONGLY CONSTRUCTED. ✓

Particulars of Flush Bunker Scuttles:— **NONE.**

Particulars of Companionways:— AFT END OF CASING ON BRIDGE DK TO CABIN. ON POOP DE TO ACCN.
(2 off) DOOR 7" SILL. 4'-10" x 23" x 1½ TK. 1" PANEL.
OPERATED BOTH SIDES.



DOOR $1\frac{1}{2}$ TK. 1" PANEL.
4'2" x 24".
SILL 16".
DOOR OPERATED BOTH SIDES.

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

FILE D² INVENT 14" DIA^R COATING. 36" \times $\frac{1}{4}$ TO HOLD.

FOR^o well:- 1 " 15" " " 42" " 30 " " "

2 " 20 " " " 36 " 30 " "

ON WINCH PLATFORM.

APT WELL - 2 VENT 15" DIA² COATING 32" x 450' " "

2 " 20" 32" x 30"

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or

FIDE DK 1 AIR PIPE 5" DIA. x 12" / 12" TO LIP. 15" TO BEND

For Well 2 - " 3" - x 14" To Top. To D.B.

DET WELL 2 - 3 - 33" To Top. To D.B.

HFT WELL 2 5 3014" TO LIP. 18" TO BEND

Росп ДК 1 - 6 " " 5 " " 8 " "

Particulars of Gangway Cargo and Coaling Ports:— NONE—

BRIDGE DECK - 3 VENTS 5" DIA^R COAMING 8 1/2" x .28 TO CABINS.

4 MUSK. $5\frac{1}{2}$. $5\frac{1}{2}$ -

5 VENTS. $5\frac{1}{2}$ " " " " " "

POOP DK: 2 VENTS 8" " 18" x .25 ✓ "

18 30

2 MUSH 5 1/2 " " 5 " "

ALL VENTS ARE CONSTRUCTED IN ACCORDANCE WITH RULES
AND HAVE WOOD PLOGS + CANVAS COVERS. ~~EXCEPT TO~~
~~CABINS. NO MEANS OF CLOSING.~~

PLUGS TO AIR PIPES IN ROD WELL ONLY

UNDERSIDE OF PLATE AND IMPRACTICABLE TO CLOSE WITH PLUGS.

Particulars of Gangway Cargo and Coaling Ports:— NONE—

Particulars of Scuppers and Sanitary Discharge Pipes — LAVATORY DISCHARGES HAVE STRONG STORM VALVES ON SHIPS SIDE ABOVE T. BELOW F&D DECK.

BATH + PANTRY DISCHARGE HAVE NO STORM VALVES AND NO BENDS ON PIPES.

Particulars of Side Scuttles: ALL SCUTTLES HAVE HINGED DEADLIGHTS. SIDE SCUTTLES OF STRONG CONSTRUCTION.

Particulars of Guard Rails: — F&D DECK 2 TIER. 3'-2" HIGH. STANCHIONS SPACED 4'-6" APART. POOP DECK 2 TIER. 3'-2" " " 4'-6" "

Particulars of Gangways, Lifelines, etc.: — NONE FITTED. (CREW IN POOP.)

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 ... | 89.75 94.0 | 3'-4" | 3'-0" x 1'-6" | 4 | 18.0 | 17.95 |
| Forward Well ... | 84.33 84.0 | 4'-0" | 3'-0" x 1'-6" | 4 | 18.0 | 16.87 |

State position of each freeing port ... After Well: — 1st 7'-3" x 1'-2" 32'-3" : 3rd 54'-2" : 4th 79'-0" } 5" ABOVE DECK
(F. and A. position and height above deck edge) Forward Well: — 1st 7'-6" x 2'-0" 26'-3" : 3rd 48'-6" : 4th 67'-2" } FROM B.B. 10" ABOVE DECK

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — 2 BARS

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

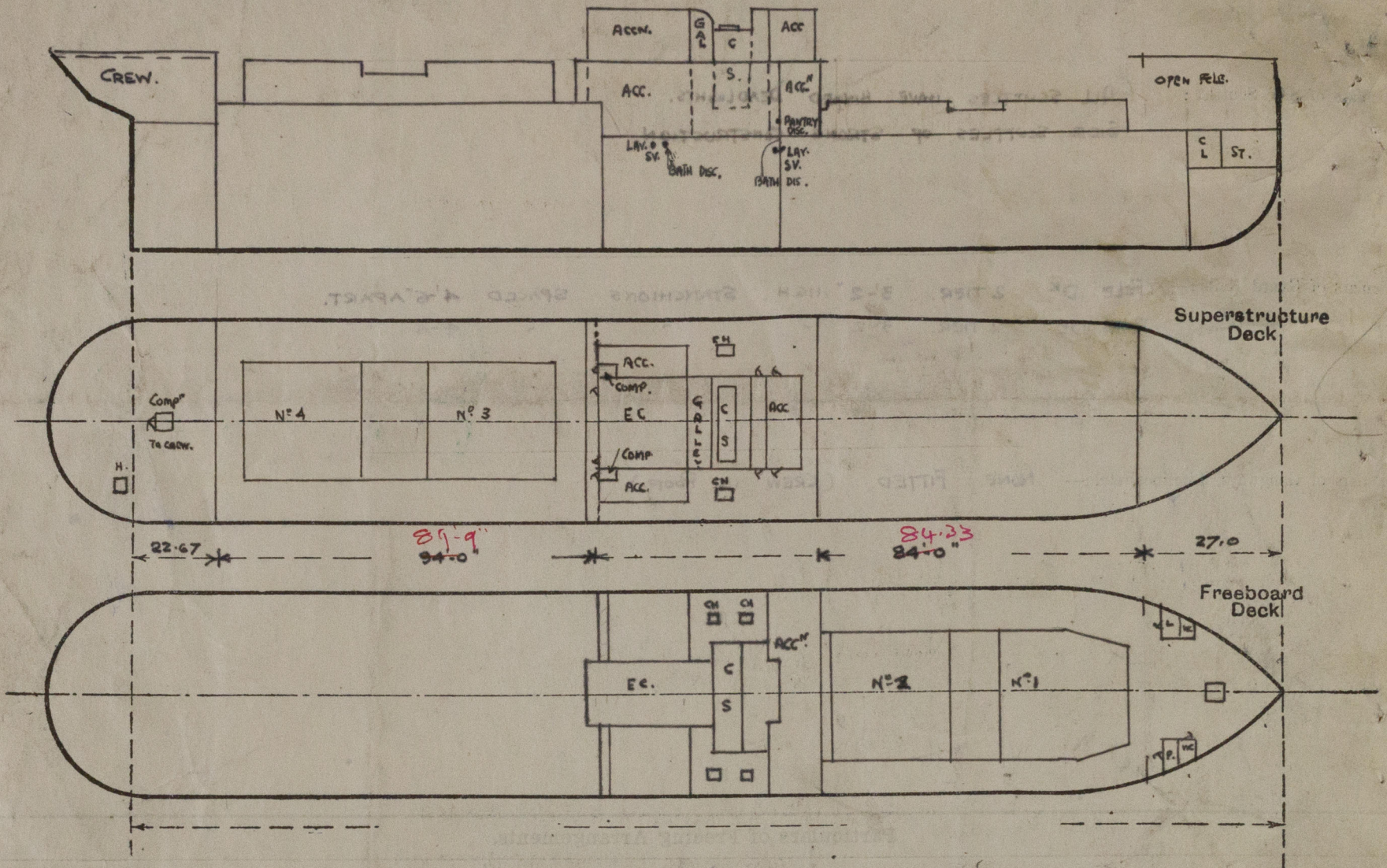
| | Coaming | Plating | Stiffeners | Spacing | End Attachments of Stiffeners | Size of Openings | Height of Sills | Height of Casings |
|---|---------|---------|----------------------------------|---------|-------------------------------|---|--------------------------|-------------------|
| Poop Bulkhead ... | 30" | 30" | 4 x 3 x 30" | 30" | - | - | - | - |
| Raised Quarter Deck Bulkhead ... | 30" | - | 3 KTS. | - | - | - | - | - |
| Bridge, After Bulkhead ... | 30" | - | 4 x 3 x 36" | 30" | - | - | - | - |
| Bridge, Forward Bulkhead ... | 38" | 34" | 7 x 3 x 40 B. 7 INACCESSIBLE. | 30" | B.W.T. TOP BOT. INACC. | - | - | - |
| Forecastle Bulkhead ... | - | - | - | - | - | - | - | - |
| Trunk, Aft ... | ✓ | - | - | - | - | - | - | - |
| Trunk, Forward ... | ✓ | - | - | - | - | - | - | - |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | 38" | 30" | 3 x 3 x 30" | 30" | - | - | - | - |
| Exposed Machinery Casings on Superstructure Decks ... | 32" | - | 5 x 3 x 36" | 48" | - | 4'-10" x 1'-11" WOOD 4'-6" x 2'-0" ST. | 7" SILLER 18" FIDOLEY | - |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... | - | - | - | - | - | - | - | - |
| Deckhouses on Flush Deck Ships ... | ✓ | - | - | - | - | - | - | - |

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

| | |
|---|--|
| Poop Bulkhead ... | NO OPENINGS. |
| Raised Quarter Deck Bulkhead ... | NO OPENINGS. |
| Bridge, After Bulkhead ... | NO OPENINGS. |
| Bridge, Forward Bulkhead ... | NO OPENINGS. |
| Forecastle Bulkhead ... | - open |
| Exposed Machinery Casings on Free-board or Raised Quarter Decks ... | - |
| Exposed Machinery Casings on Superstructure Decks ... | GRD. HAD ST. DOOR OPERATED BOTH SIDES. TO FIDOLEY. |
| Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... | NO OPENINGS. |
| Deckhouses on Flush Deck Ships ... | - |

Hornchurch

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 shewn on the following sketches:—



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

VESSEL MEASURED AFLOAT.
ENGAGED IN COAL CARGOES ONLY.
NO TIMBER ASSIGNMENT REQUIRED.

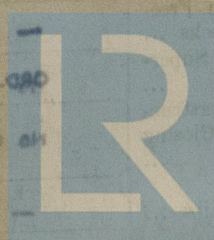
Builder's name and yard number **OSBOURNE GRAHAM & CO. LTD.**

Names of sister ships **DAGENHAM.**

Owners **HUDSON S.S. CO. LTD.**

Fee £ **10 : 4 : .**

Received by me



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