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(For London Office only.)

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

18272.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having *Raised Quarter Deck, Bridge & Forecastle.*

Port of Survey *Leith*Date of Survey *while building*Name of Surveyor *Ern Edwards*Particulars of Classification *+100A!*  
*"With Freeboard" corresponding to summer draught of 15'-10 5/8"*

(Type of Superstructures.)

Ship's Name **WANDLE**  
(*The Burntisland SBC "N°173"*)

Nationality and Port of Registry **UK**

Official Number *163297*

Gross Tonnage *approximate 1480*

Date of Build **1932**

Moulded Dimensions: Length **235'-6"** Breadth **37'-10"** Depth **18'-6"**

Moulded displacement at moulded draught = 85 per cent. of moulded depth **3130** tons

Coefficient of fineness for use with Tables **.782**

| Depth for Freeboard (D)                                         | Depth correction                                                                                         | Round of Beam correction                                                                                                     |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Moulded depth ... .. <b>18'-5"</b>                              | (a) Where D is greater than Table depth<br>(D-Table depth) R =<br><i>(18'-5" - 15'-10") 1.812 = 5.15</i> | Moulded Breadth (B) <b>37.83</b>                                                                                             |
| Stringer plate ... .. <b>.04</b>                                | (b) Where D is less than Table depth (if allowed)<br>(Table depth-D) R =                                 | Standard Round of Beam = $\frac{B \times 12}{50} = 9.08$                                                                     |
| Sheathing on exposed deck<br>$T \left( \frac{L-S}{L} \right) =$ | If restricted by superstructures                                                                         | Ship's Round of Beam = <b>8.50</b>                                                                                           |
| Depth for Freeboard (D) = <b>18'-5.4"</b>                       |                                                                                                          | Difference <i>deficient .58</i>                                                                                              |
|                                                                 |                                                                                                          | Restricted to                                                                                                                |
|                                                                 |                                                                                                          | Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.58}{4} \times .2644 = (.7) .04$ |

## DEDUCTION FOR SUPERSTRUCTURES.

|                         | Mean Covered Length (S) | Equivalent Enclosed Length (S <sub>1</sub> ) | Height       | Height Correction | Effective Length (E) |
|-------------------------|-------------------------|----------------------------------------------|--------------|-------------------|----------------------|
| Poop enclosed ... ..    |                         |                                              |              |                   |                      |
| " overhang ... ..       |                         |                                              |              |                   |                      |
| R.Q.D. enclosed ... ..  | <b>135.52</b>           | <b>135.52</b>                                | <b>4'-0"</b> | <b>✓</b>          | <b>135.52</b>        |
| " overhang ... ..       |                         |                                              |              |                   |                      |
| Bridge enclosed... ..   | <b>15.0</b>             | <b>15.0</b>                                  | <b>7'-0"</b> | <b>✓</b>          | <b>15.0</b>          |
| " overhang aft ... ..   |                         |                                              |              |                   |                      |
| " overhang forward      |                         |                                              |              |                   |                      |
| F'cle enclosed ... ..   | <b>22.73</b>            | <b>22.73</b>                                 | <b>6'-0"</b> | <b>✓</b>          | <b>22.73</b>         |
| " overhang ... ..       |                         |                                              |              |                   |                      |
| Trunk aft ... ..        |                         |                                              |              |                   |                      |
| " forward ... ..        |                         |                                              |              |                   |                      |
| Tonnage opening aft ... |                         |                                              |              |                   |                      |
| " forward ... ..        |                         |                                              |              |                   |                      |
| Total ... ..            | <b>173.25</b>           | <b>173.25</b>                                |              |                   | <b>173.25</b>        |

Standard Height of Superstructure **6.0**

" " R.Q.D. **3.903**

Deduction for complete superstructure **29.55**

Percentage covered  $\frac{S}{L} = 73.56$

" "  $\frac{S_1}{L} = 73.56$

" "  $\frac{E}{L} = 73.56$

Percentage from Table, Line A. **64.38**

(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 =  $.6438 \times 29.55 = 19.91$

## SHEER CORRECTION.

| Station                | Standard Ordinate | S        | Product       | Actual Ordinate | Effective Ordinate | S        | Product       |
|------------------------|-------------------|----------|---------------|-----------------|--------------------|----------|---------------|
| A.P. ... ..            | <b>33.55</b>      | <b>1</b> | <b>33.55</b>  | <b>5 1/2</b>    | <b>6.66</b>        | <b>1</b> | <b>6.66</b>   |
| 1/4 L from A.P. ... .. | <b>14.93</b>      | <b>4</b> | <b>59.72</b>  | <b>1/4</b>      | <b>1.41</b>        | <b>4</b> | <b>5.64</b>   |
| 2/4 L " ... ..         | <b>3.69</b>       | <b>2</b> | <b>7.38</b>   | <b>0</b>        | <b>.16</b>         | <b>2</b> | <b>.32</b>    |
| Amidships ... ..       | <b>-</b>          | <b>4</b> | <b>-</b>      | <b>0</b>        | <b>-</b>           | <b>4</b> | <b>-</b>      |
| 3/4 L from F.P. ... .. | <b>4.38</b>       | <b>2</b> | <b>14.76</b>  | <b>4 1/2</b>    | <b>4.50</b>        | <b>2</b> | <b>9.00</b>   |
| 1/4 L " ... ..         | <b>29.86</b>      | <b>4</b> | <b>119.44</b> | <b>17 1/2</b>   | <b>17.25</b>       | <b>4</b> | <b>69.00</b>  |
| F.P. ... ..            | <b>64.10</b>      | <b>1</b> | <b>64.10</b>  | <b>39</b>       | <b>39.00</b>       | <b>1</b> | <b>39.00</b>  |
| Total ... ..           |                   |          | <b>301.95</b> |                 |                    |          | <b>129.62</b> |

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{172.33}{18} (.75 - .3648) = 4.3.66$

If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

*RAISED Q<sub>1</sub>*

Depth to **Deck** = **22.54'**

Summer freeboard = **6.66'**

Moulded draught (d) = **15.88'**

Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = **3.91**Addition for Winter North Atlantic Freeboard (if required) = **2"**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 3188$ 

Tons per inch immersion at summer load water line

 $T = 18.2$ Deduction =  $\frac{\Delta}{40T}$  inches= **4.38****4 1/2"**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient  $\frac{.782 + .68}{1.36} = \frac{1.462}{1.36}$ Depth Correction ... .. **5.15**Deduction for superstructures ... .. **19.91**Sheer correction ... .. **3.66**Round of Beam correction *RAISED QUARTER* ... .. **.04**Correction for **Deck** amidships ... .. **48.00**Other corrections, scantlings, **AND TO** ... .. **11.36**

CORRESPOND TO AN APPROVED SUMMER MOULDED DRAUGHT OF 15'-10 5/8"

Summer Freeboard = **80.00**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **RAISED QUARTER**, Steely Deck :-

Tropical Fresh Water Line above Centre of Disc ... **8 1/2"**

Fresh Water Line " " ... **4 1/2"**

Tropical Line " " ... **4 1/2"**

Winter Line below " " ... **4 1/2"**

Winter North Atlantic Line " " ... **6 1/2"**

Tropical Fresh Water Freeboard ... **5'-11 1/2"**

Fresh Water " " ... **6'-3 1/2"**

Tropical " " ... **6'-4 1/2"**

Winter " " ... **4'-0"**

Winter North Atlantic " " ... **4'-2"**



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

|                         |                       | HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|-------------------------|-----------------------|-------------------------------------------------|------------------|-------------------------|-------------------------|--|--|--|--|--|--|--|--|--|--|
|                         |                       | on Upper D <sup>ck</sup>                        |                  | on RQ D <sup>ck</sup>   |                         |  |  |  |  |  |  |  |  |  |  |
| Description of Hatchway | ...                   | ...                                             | N <sup>o</sup> 1 | N <sup>o</sup> 2        |                         |  |  |  |  |  |  |  |  |  |  |
| Dimensions of Hatchway  | ...                   | ...                                             | 53'-0" x 24'-6"  | 67'-6" x 24'-6"         |                         |  |  |  |  |  |  |  |  |  |  |
| COAMINGS                | Height above Deck     | ...                                             | 4'-0"            | 3'-10"                  |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Thickness             | { Sides                                         | ...              | .44                     | .44                     |  |  |  |  |  |  |  |  |  |  |
|                         |                       | { Ends                                          | ...              | .44                     | .44                     |  |  |  |  |  |  |  |  |  |  |
|                         | Stiffeners            | ...                                             | P                | 7 x 3 x .44             | 7 x 3 x .49             |  |  |  |  |  |  |  |  |  |  |
|                         | Brackets, Stays       | ...                                             | L                | 6 x 3 x .36, 10'-0" aft | 6 x 3 x .32, 10'-0" aft |  |  |  |  |  |  |  |  |  |  |
| HATCH BEAMS             | Number                | ...                                             | 10               | 11                      |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Spacing               | ...                                             | 5'-0" and 4'-6"  | 5'-7 1/2"               |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Scantling and Sketch  | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | The beam after        | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | beams 20 3/4" x .38   | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | The three forward     | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | beams 19 1/4" x .37   | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Bearing Surface       | ...                                             | 3"               | 3"                      |                         |  |  |  |  |  |  |  |  |  |  |
| FORE AND AFTERS         | Number                | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Spacing               | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Unsupported Lengths   | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Scantling* and Sketch | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Bearing Surface       | ...                                             |                  |                         |                         |  |  |  |  |  |  |  |  |  |  |
| HATCH COVERS            | Material              | ...                                             | white pine       | white pine              |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Thickness             | ...                                             | 2 1/2"           | 2 1/2"                  |                         |  |  |  |  |  |  |  |  |  |  |
|                         | How fitted            | ...                                             | fore & aft       | fore & aft              |                         |  |  |  |  |  |  |  |  |  |  |
|                         | Bearing Surface       | ...                                             | 3"               | 3"                      |                         |  |  |  |  |  |  |  |  |  |  |
| Spacing of Cleats       | ...                   | ...                                             | 24"              | 24"                     |                         |  |  |  |  |  |  |  |  |  |  |
| Number of Tarpaulins    | ...                   | ...                                             | 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:— Fiddley top is of steel, the openings have steel rod gratings with steel plates over same hinged and secured by metal clips (height 7'-9"). The coal shoot openings, two at 7'-5" x 6'-6", 3 x 3 x .34 coaming angle, covers 2 1/2 W.P. have 3" bearing surface, cleats 2'-0" apt. tarpaulins & battens in order. The funnel & ventilator coamings are efficient.

NOTE:— The funnel is hinged for lowering at bridges with counter balance weights.

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—

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

On shell electn :- two @ 15" dia x 36, 36" above deck, to hold.  
" RQ " :- " " " " " " " " " " " "

Wood plugs & canvas covers & lashings are supplied.

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

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

|                                                              |                                                 |
|--------------------------------------------------------------|-------------------------------------------------|
| on Fore - One - $3\frac{1}{2}$ " dia, to lower Fou Rink Tank | Light above Fore D <sup>K</sup> - 1'-6"         |
| " Hull D <sup>K</sup> - Two - $2\frac{1}{2}$ "               | " " " " " " " " " " " "                         |
| " " " " " " " " " " " " " " " " " " " " " " " "              | " " " " " " " " " " " " " " " " " " " " " " " " |
| " " " " " " " " " " " " " " " " " " " " " " " "              | " " " " " " " " " " " " " " " " " " " " " " " " |
| " Bridge " - One - $3\frac{1}{2}$ "                          | " " " " " " " " " " " " " " " " " " " " " " " " |
| " R & D <sup>K</sup> - Two - 3"                              | " " " " " " " " " " " " " " " " " " " " " " " " |
| " " " " " " - 4"                                             | " " " " " " " " " " " " " " " " " " " " " " " " |
| Inside Long Casing - " - 2"                                  | " " " " " " " " " " " " " " " " " " " " " " " " |

Particulars of Gangway Cargo and Coaling Ports :-

wood plugs are "provided for all air pipes" "holes are drilled at top of all tanks."

Particulars of Gangway Cargo and Coaling Ports:—

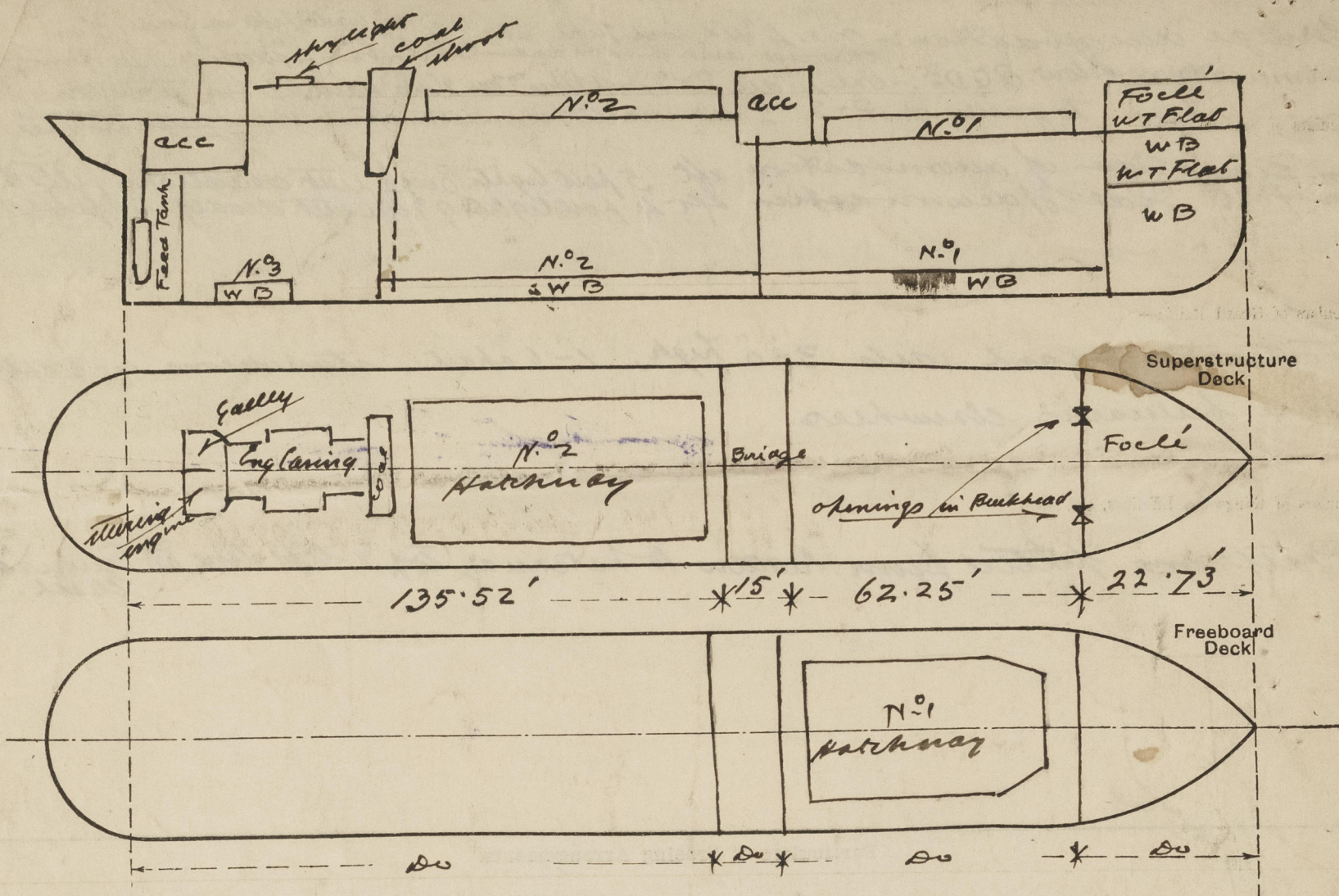






Wandle.

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:—

*This survey held while vessel building.*

*WMT*

Builder's name and yard number *The Bruntsford S.B.C. & L.*

Names of sister ships *Similar to SS "Tolworth"*

Owners *The Wandsworth & District Gas Co.*

Fee £ *1* Received by me

*gross tonnage not yet assigned  
Fee be charged together with Tonnage fees 7/6*



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