

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. **31146**

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Raised 8' 0" R.K. Bridge & Newcastle

Port of Survey Sunderland

Date of Survey 9th Jan. 1933.

Name of Surveyor H. L. Swinton.

Particulars of Classification *100A1.
S.S. Nwc. No. 3-7.24.
S.S. Nwc. No. 1-29

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"TRADER"	<u>British Newcastle</u>	<u>127084</u>	<u>297</u>	<u>1910.9</u>

Moulded Dimensions: Length 150' Breadth 24.83' Depth 10.0'
Moulded displacement at moulded draught = 85 per cent. of moulded depth 554 tons
Coefficient of fineness for use with Tables .707

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>10.0'</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(10.04 - 8.67) 1.0 = 1.37</u>	Moulded Breadth (B) <u>24.83'</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>5.96</u> Ship's Round of Beam = <u>6.5</u> Difference <u>.54</u>
Stringer plate ... <u>.48"</u> <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Difference
Sheathing on exposed deck <input checked="" type="checkbox"/>		Restricted to
$T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.54}{4} \times .4094 =$ <u>-.06</u>
Depth for Freeboard (D) = <u>10.04</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed	<u>46.0'</u>	<u>46.00</u>	<u>2.75</u>	<u>2.75/3.20</u>	<u>39.53</u>
" overhang	<u>7.83</u>	<u>7.83</u>	<u>6.75</u>	<u>-</u>	<u>7.83</u>
Bridge enclosed	<u>7.83</u>	<u>7.83</u>	<u>6.75</u>	<u>-</u>	<u>7.83</u>
" overhang aft	<u>8.26</u>	<u>8.26</u>	<u>6.75</u>	<u>-</u>	<u>8.26</u>
" overhang forward	<u>21.18</u>	<u>21.18</u>	<u>6.25</u>	<u>-</u>	<u>21.18</u>
F'cle enclosed	<u>19.25</u>	<u>19.25</u>	<u>6.25</u>	<u>-</u>	<u>19.25</u>
" overhang	<u>3.57</u>	<u>3.57</u>	<u>1.78</u>	<u>-</u>	<u>1.78</u>
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<u>78.58</u>	<u>76.79</u>			<u>70.32</u>

Standard Height of Superstructure 6.0
" " R.Q.D. 3.20
Deduction for complete superstructure 19.0
Percentage covered $\frac{S}{L} =$ 60.44 ✓
" " $\frac{S_1}{L} =$ 59.06 ✓
" " $\frac{E}{L} =$ 54.09 ✓
Percentage from Table, Line A. (corrected for absence of forecastle (if required)) 37.73 ✓
Percentage from Table, Line B. (corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = -7.17 ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>23.00</u>	<u>1</u>	<u>23.00</u>	<u>28.5</u>	<u>23.00</u>	<u>1</u>	<u>23.00</u>	<u>1</u>	<u>23.00</u>
$\frac{1}{4}$ L from A.P.	<u>10.23</u>	<u>4</u>	<u>40.92</u>	<u>12.03</u>	<u>10.23</u>	<u>4</u>	<u>40.92</u>	<u>4</u>	<u>40.92</u>
$\frac{2}{4}$ L "	<u>2.53</u>	<u>2</u>	<u>5.06</u>	<u>2.25</u>	<u>2.53</u>	<u>2</u>	<u>5.06</u>	<u>2</u>	<u>5.06</u>
Amidships		<u>4</u>				<u>4</u>			
$\frac{3}{4}$ L from F.P.	<u>5.06</u>	<u>2</u>	<u>10.12</u>	<u>4.24</u>	<u>5.06</u>	<u>2</u>	<u>10.12</u>	<u>2</u>	<u>10.12</u>
$\frac{1}{4}$ L "	<u>20.47</u>	<u>4</u>	<u>81.88</u>	<u>16.98</u>	<u>20.47</u>	<u>4</u>	<u>81.88</u>	<u>4</u>	<u>81.88</u>
F.P.	<u>46.00</u>	<u>1</u>	<u>46.00</u>	<u>33.25</u>	<u>46.00</u>	<u>1</u>	<u>46.00</u>	<u>1</u>	<u>46.00</u>
Total			<u>206.98</u>				<u>178.63</u>		

Mean actual sheer aft = Excess
Mean standard sheer aft =
Mean actual sheer forward = Deficient
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships =
" " aft of " = } sheer deficient

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{28.35}{18} \left(.75 - \frac{3022}{2} \right) = +.70$ ✓
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.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{-7.07 + .68}{1.36} =$ <u>1.387</u>
Depth to Freeboard Deck = <u>10.04</u>	$\Delta =$	+ <u>1.36</u>
Summer freeboard = <u>.67</u>	Tons per inch immersion at summer load water line	Depth Correction <u>1.37</u>
Moulded draught (d) = <u>9.37</u>	T =	Deduction for superstructures <u>7.17</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>2.34</u> $2\frac{1}{4}$	Deduction = $\frac{\Delta}{40T}$ inches =	Sheer correction <u>.70</u>
Addition for Winter North Atlantic Freeboard (if required) =		Round of Beam correction <u>.06</u>
		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc.
		2.07 7.23 - 5.16
		Summer Freeboard = <u>8.10</u>

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

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

© 2020
1906 freeboards reassigned.

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

Particulars of fiddle, funnel and ventilator coamings:—

Stokehold gratings covered with steel hinged covers. ~~to be renewed~~
 Fiddle funnel & vents in efficient condition.
 Engine room skylight tank. ~~glass to be renewed as required.~~

Particulars of Flush Bunker Scuttles:—

~~None.~~

Particulars of Companionways:—

Entrance to enclosed Bridge Accom. from steel deckhouse on Bridge.
 Opening 4'9" x 1'6". Door of 1" thick manipulated from both sides.
 Sill 16".

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

1 on Side dk. 6" dia. Coam. 16" x 30" to crew. Coamings constructed in accord.
 1 " " " 11" " 24" x 30" to hold. with the Rules, & provided
 1 " Bridge 12" " 25" x 30" " with wood plugs & canvas covers.

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

1 on Side dk. 2" dia. 4" high to peak.
 1 on R.P. 2 " 13" " ~~Upward means for closing provided~~
~~No plug to be renewed as required.~~

Particulars of Gangway Cargo and Coaling Ports:—

~~None.~~

TRADER

Particulars of Scuppers and Sanitary Discharge Pipes:—

Scuppers from Suez dk. in well & from R.P. DK. this opening in stringer box above dk. Sanitary discharge from W.C. above Suez dk. with storm valve.

Particulars of Side Scuttles:—

In Side 9" dia. with hinged deadlights. ~~glass to be renewed as required.~~
 all of substantial construction.

Particulars of Guard Rails:—

On Side dk. 3'3" high & rods. Stanchions spaced 5'0" apart.
 Steel bulwark in well 3'3" high, on R.P. DK. 3'0" high & on bridge 2'9" high strongly constructed & efficiently supported.

Particulars of Gangways, Lifelines, etc.:—

~~None.~~
 Suitable provision made for jiffy lifelines in the well for the use of the crew & the regular working of the ship.

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 ... R.P. DK.	16'0"	3'0"	10' x 1'6"	3.	11.25	11.1 f.
Forward Well ...	52'3"	3'3"	2'2" x 1'6"	2.	6.65 f.	11.7 f.

State position of each freeing port ... After Well:— 2'0", 15'0", 22'0" from R.P. DK. 8" above dk.
 (P. and A. position and height above deck edge) Forward Well:— 2'9", 11'6" from Bridge front 8" above dk.
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Balanced doors in fore well.
 Additional area where sheer is less than standard. 1 Balanced door in aft well, & 2 slots (2'0" x 0'6")

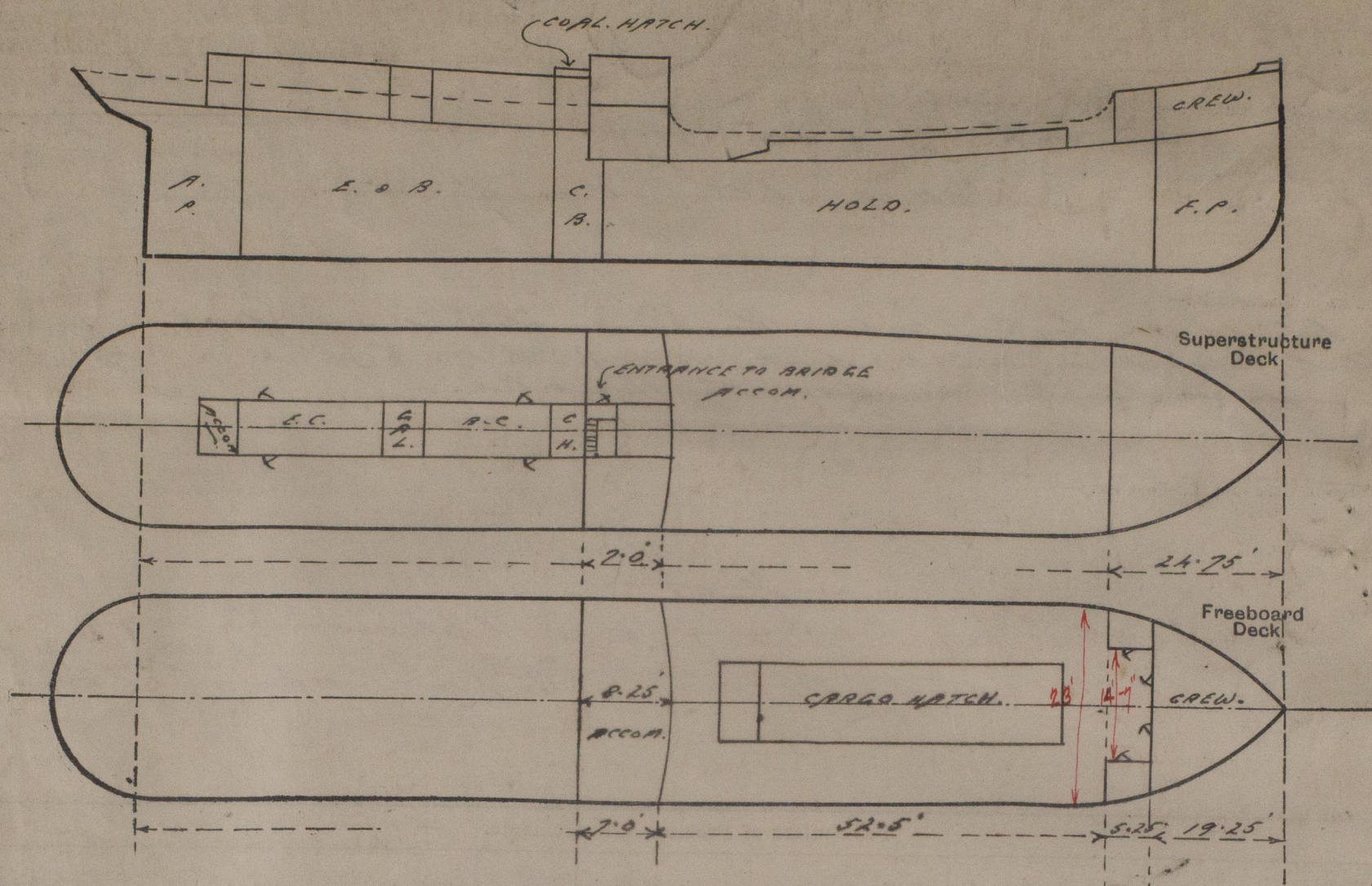
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead
Raised Quarter Deck Bulkhead
Bridge, After Bulkhead
Bridge, Forward Bulkhead
Forecastle Bulkhead
Trunk, Aft
Trunk, Forward
Exposed Machinery Casings on Freeboard or Raised Quarter Deck
Exposed Machinery Casings on Superstructure Decks
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	...	...	...	...	...	...	...	...
Raised Quarter Deck Bulkhead	...	...	...	...	...	...	...	...
Bridge, After Bulkhead	...	...	...	...	...	...	...	...
Bridge, Forward Bulkhead	...	...	...	...	...	...	...	...
Forecastle Bulkhead	...	...	...	...	...	...	...	...
Exposed Machinery Casings on Freeboard or Raised Quarter Deck	...	...	...	...	...	...	...	...
Exposed Machinery Casings on Superstructure Decks	...	...	...	...	...	...	...	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	...	...	...	...	...
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 shewn on the following sketches:—



$$\begin{array}{r}
 \text{Forecastle} \quad 24.50 \quad \checkmark \\
 - \frac{14.58 \times 5.25}{23} = \frac{3.32}{21.18} \quad \checkmark \\
 \hline
 \text{O.H} = 3.32 \quad \checkmark \\
 + 1.25 \quad \checkmark \\
 \hline
 3.57 \quad \checkmark
 \end{array}$$

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

Vessel surveyed afloat, & confined to an examination of the means of closing the openings in the decks & sides of the vessel.

Nothing has been done at this time towards the completion of the Special Survey partly held.

Particulars of displ. received from Middlesbrough Surveyors:
 External disp. at 6'0" extreme draught 370 tons. Less per inch 6
 do do 8'0" do. do. 512 do. do. 6.13

Builder's name and yard number Smiths Dock Co. Ltd

Names of sister ships ✓

Owners T. Stearns & Co. Ltd (Robinson, Brown & Co.)

Fee £ 3 - 8 - 0

Received by me _____



© 2020

Lloyd's Register
Foundation