

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

No. 446

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Forecastle and Raised Quarter Deck

(Type of Superstructures.)

Port of Survey Newcastle-on-Tyne

Date of Survey 15th Sept 1933

Name of Surveyor J. H. Lowden

Particulars of Classification +100 A1

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>TAMWORTH EASTERN TRADER</u>	<u>British Newcastle</u>	<u>148080</u>	<u>1332</u>	<u>1924-7</u>

Moulded Dimensions: Length 234.6 Breadth 35.5 Depth 16-9 1/2

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2595 tons

Coefficient of fineness for use with Tables 764

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>16-9 1/2</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(16.84-15.64) 1.804 = + 2.16</u>	Moulded Breadth (B) <u>6.00</u>
Stringer plate <u>16.79</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{8.52}{50}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <u>✓</u>	If restricted by superstructures <u>✓</u>	Ship's Round of Beam = <u>8 1/2</u>
Depth for Freeboard (D) = <u>16.84</u>		Difference <u>.02</u>
		Restricted to
		Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.02}{4} \times .2797 = .0014$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	✓					Standard Height of Superstructure <u>6.00</u> ✓
" overhang	✓					" " R.Q.D. <u>3.897</u> ✓
R.Q.D. enclosed	<u>142.50</u>	<u>142.50</u>	<u>3.91</u>		<u>142.50</u>	Deduction for complete superstructure <u>29.46</u> ✓
" overhang	✓					Percentage covered $\frac{S}{L} = 72.48\%$ ✓
Bridge enclosed	✓					" " $\frac{S_1}{L} = 72.03\%$ ✓
" overhang aft	✓					" " $\frac{E}{L} = 72.03\%$ ✓
" overhang forward	<u>25.43</u>	<u>25.43</u>	<u>7.0</u>		<u>25.43</u>	Percentage from Table, Line A. <u>65.50%</u> ✓
F'cle enclosed <u>equivalent</u>	<u>27.52</u>	<u>25.43</u>	<u>7.0</u>		<u>25.43</u>	(corrected for absence of forecastle (if required))
" overhang	<u>2.09</u>	<u>1.04</u>			<u>1.04</u>	Percentage from Table, Line B.
Trunk aft	✓					(corrected for absence of forecastle (if required))
" forward	✓					Interpolation for bridge less than .2L (if required)
Tonnage opening aft	✓					Deduction = <u>29.46</u> × <u>.655</u> = <u>-19.30</u> ✓
" " forward	✓					
Total	<u>170.62</u>	<u>168.97</u>			<u>168.97</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>33.46</u>	1		<u>33.46</u>	<u>39.5</u>	<u>36.00</u>	1		<u>36.16</u>
1/8 L from A.P.	<u>14.89</u>	4		<u>59.56</u>	<u>15.8</u>	<u>15.80</u>	4		<u>63.84</u>
2/8 L "	<u>3.68</u>	2		<u>7.36</u>	<u>4.0</u>	<u>3.95</u>	2		<u>7.98</u>
Amidships		4					4		
2/8 L from F.P.	<u>7.36</u>	2		<u>14.72</u>	<u>7.1</u>	<u>7.80</u>	2		<u>15.60</u>
1/8 L "	<u>29.78</u>	4		<u>119.12</u>	<u>28.5</u>	<u>31.20</u>	4		<u>124.80</u>
F.P.	<u>66.92</u>	1		<u>66.92</u>	<u>72</u>	<u>72.00</u>	1		<u>72.00</u>
Total				<u>301.14</u>					<u>320.38</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{19.24}{18} \left(.75 - .3624 \right) = -.41$

If limited on account of midship superstructure.

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

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Corrected for Flush Deck (if required)
Depth to Freeboard Deck = <u>20.75</u> ✓	Δ = <u>2910</u>	Correction for coefficient
Summer freeboard = <u>5.04</u> ✓	Tons per inch immersion at summer load water line	
Moulded draught (d) = <u>15.71</u> ✓	T = <u>17.06</u>	Depth Correction <u>2.16</u> ✓
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>4</u> ✓	Deduction = $\frac{\Delta}{40T}$ inches = <u>4 1/4</u>	Deduction for superstructures <u>19.30</u> ✓
Addition for Winter North Atlantic Freeboard (if required) =	TP1 <u>16.40</u> at <u>14'-8"</u>	Sheer correction <u>.41</u> ✓
	<u>16.50</u> at <u>15'-8"</u>	Round of Beam correction <u>-</u>
	<u>16.60</u> at <u>16'-8"</u>	Correction for Thickness of Deck amidships <u>-</u>
		Other corrections, scantlings, etc. R.Q.D. Height <u>47.00</u>
		Summer Freeboard = <u>60.59</u>

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

Tropical Fresh Water Line above Centre of Disc	<u>8 1/4</u>	Tropical Fresh Water Freeboard	<u>4'-4 1/4</u>
Fresh Water Line " "	<u>4 1/4</u>	Fresh Water " "	<u>4'-8 1/4</u>
Tropical Line " "	<u>4</u>	Tropical " "	<u>4'-8 1/2</u>
Winter Line below " "	<u>4</u>	Winter " "	<u>5'-4 1/2</u>
Winter North Atlantic Line " "	<u>6</u>	Winter North Atlantic " "	<u>5'-6 1/2</u>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
← UPPER DK → ← RQD → ← CASING → ← RQD → RQ.D. VD											
Description of Hatchway	...	...	Nº1	Nº2	Nº3	Nº4	COAL HATCH	2 ESCAPE HATCH	DEEP TANK IN SALOON	APT	FORE PEAK
Dimensions of Hatchway	...	...	24-2 21-9-9"	27-3 23-0	22-6 23-0	24-7-5 23-0-12-8	5'-9" 20'-4"	2-3" 2-4"	2-0 2-3	18" 12"	30" 30"
COAMINGS	Height above Deck	...	42"	42"	51"	51"	9 1/2 BA	30"	16"	19"	16"
	Thickness	...	44	44	44	44		30	36	32	38
	Stiffeners	...	7" BA	7" BA	7" BA	7" BA		ON WINCH			
	Brackets, Stays	...	2	2	2	3		PLATFORMS			
HATCH BEAMS	Number	...	4	4	3	3					
	Spacing	...	4-10	5-6"	5-8	6-2"					
	Scantling and Sketch	...	20"x-36	21"x-38	21 1/2"x-38	24 1/2"x-40	✓	✓	✓	✓	✓
	Bearing Surface	...	5"x3"x-46 ANGLES	5"x3"x-46 ANGLES	5"x3"x-46	5"x3"x-48					
FORE AND AFTERS	Number	...									
	Spacing	...									
	Unsupported Lengths	...									
	Scantling* and Sketch	...	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH COVERS	Material	...	WP	WP	WP	WP	WP	WP	Steel	Steel	WP
	Thickness	...	2 3/4	2 3/4	2 3/4	2 3/4	2 1/2	2 3/4	.40	.40	3"
	How fitted	...	F+A	F+A	F+A	F+A	F+A	T	2 DOGS	BOLTED	T
	Bearing Surface	...	3"x-5"	3"x-5"	3"x-5"	3"x-5"	3"	1 3/4"	✓	✓	1 3/4"
Spacing of Cleats	...	...	20"x-24	23"	23"	23"	23"x-16"	16"x-10 1/2"	✓	✓	15"
Number of Tarpaulins	...	...	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?											
Yes Yes Yes Yes											

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle grating covered by strong steel hinged covers
 Funnel + fiddle vents in good order
 Engine room skylight of steel strongly constructed

Particulars of Flush Bunker Scuttles:—

None

Particulars of Companionways:—

None

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

Forecastle deck:— 1 VENT 15" DIAM COAM 36"x-36 TO HOLD
 UPPER DECK 4 " 6" " COAM 36"x-25 TO FCLD
 Raised Quarter DK 1 " 15" " " 36"x-36 TO HOLD
 4 " 6" " " 36"x-26 TO ENGINEERS ACCOM

Vents are in accordance with Rules and have wood plugs and canvas covers.

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

Forecastle DK 1 Air pipe 4" diam 12" to steel dk.
 Upper dk None 18" to top
 Raised Quarter DK 1 " " 4" " 32" high supported to DT.
 1 " " 2" " 16" " to DT.
 1 " " 3" " 23" " to the APT.
 1 " " 2" " 16" " to the APT.

No means of closing provided

Particulars of Gangway Cargo and Coaling Ports:—

None



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Particulars of Scuppers and Sanitary Discharge Pipes :-

*C.I. scuppers from deck (Upper + RQD) discharge 12" below
Lavaloy discharges above and below freeboard deck have strong steel storm
valves fitted on ship's side.*

Particulars of Side Scuttles :-

*all scuttles fitted with hinged steel deadlights of substantial
construction (glasses broken in places)*

Particulars of Guard Rails :-

*Forecastle deck. 3 Tier 3'-3" high; stanchions 4'-7" apart.
Raised Quarter dk Bulwark plating 3'-6" high.*

Particulars of Gangways, Lifelines, etc. :-

*None fitted (crew forward engineers aft).
Suitable provision is made for
robbing lifelines*

Particulars of Freeing Arrangements.

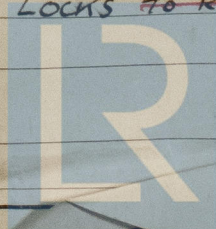
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	142.50 ^{ft} LESS 9'-0" ^{ft} SIDEHOUSE	3'-6"	62'-3" x 6" (ONE) 13'-2" x 7" ONE 1'-8" x 1'-2" ONE	3	41 ^{sq ft}	28.5 ^{sq ft}
Forward Well	64.58 ^{ft}	4'-0"	48'-0" x 7 1/2" ONE	1	30 ^{sq ft}	13 ^{sq ft}
State position of each freeing port { After Well :- 54'-0", 123'-0" + 85" from RQD bulkhead (crs of freeing ports) (F. and A. position and height above deck edge) { Forward Well :- 27'-6" to R.Q.D Bkd from centre of free port State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :- NONE Additional area where sheer is less than standard. HEIGHT OF SILL FORE WELL 11 1/2 " RQD 7 1/2						

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 ...	36	36	INACCESSIBLE	22" to 24"	INACCESSIBLE	INTACT	✓	3'-9"
Bridge, After Bulkhead	✓							
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	—	26	3 1/2 x 3 x 32 L	36"	None	4'-6" 2'-0"	18"	7'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	40	32 ER 38 BR	4" x 3" x 32 L	27" BR 30" ER	BKTS TOP & ER ONLY	4'-6" 2'-0"	17 1/2	67'-3"
Exposed Machinery Casings on Superstructure Decks	✓							
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓							
Deckhouses on Flush Deck Ships ...	✓							

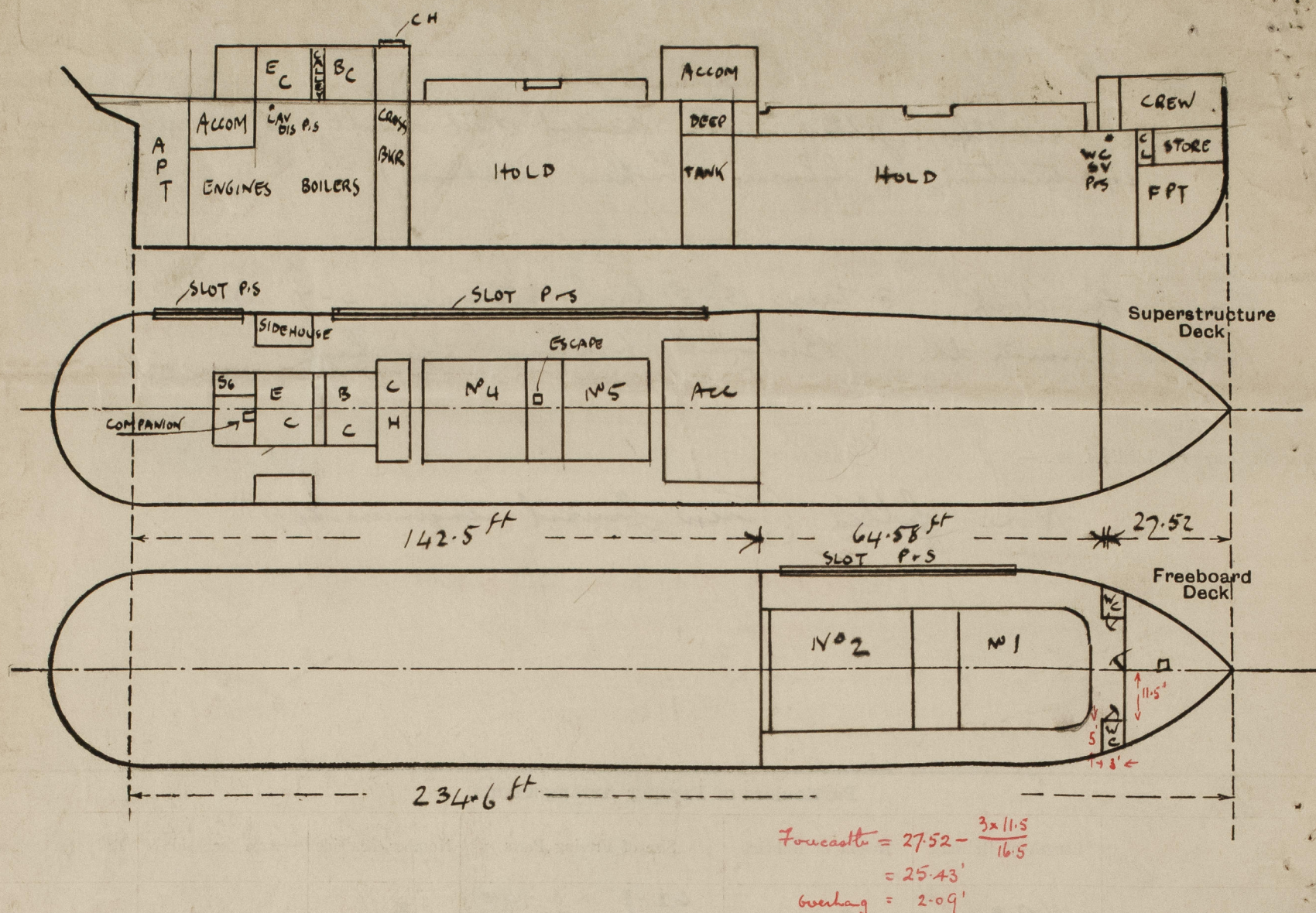
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	✓
Raised Quarter Deck Bulkhead ...	Intact
Bridge, After Bulkhead	✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	Ordinary hinged wood (17/8 SOLID) doors operated both sides
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Engine room Ord ^y hinged wood (17/8 SOLID) door Boiler room " STEEL HINGED door LOCKS TO REPAIR efficient
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓



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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:—

Timber assignment not desired
 Vessel examined on pontoon
 The Special Survey N°2 is now being held and will, it is stated,
 be completed at this time.

DMIT

Builder's name and yard number

S P Austin & Sons Ltd

Names of sister ships

? 1/8 Hetchworth

Owners

Dalglish Stevedoring Co Ltd

Fee £

8 : 10

Received by me

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