

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 57669

 Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
 having Raised Dr. & R. Bridge & Forecastle
Port of Survey Glasgow

(Type of Superstructures.)

Date of Survey While buildingName of Surveyor A. W. PatersonParticulars of Classification +100 A1
(Contemp.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	
CROSSGAR (A & J. Inglis & Co. 988A)	British Belfast	165157	661.42 640	1936	
Moulded Dimensions: Length	175' 0"	Breadth	27' 9"	Depth	13' 4 1/2" ✓
Moulded displacement at moulded draught = 85 per cent. of moulded depth	1760	D.C. - Anderson & Co.	1134		tons
Coefficient of fineness for use with Tables		.715 ✓			

Depth for Freeboard (D)	
Moulded depth	<u>13.37</u>
Stringer plate (<u>.36</u>)	<u>.03</u>
Sheathing on exposed deck	
$T \left(\frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	<u>13.40</u>

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R = <u>(13.40 - 11.73) × 1.354 = +2.26</u>	
(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	
If restricted by superstructures	<u>✓</u>

Round of Beam correction	
Moulded Breadth (B)	<u>27.75</u>
Standard Round of Beam = $\frac{B \times 12}{50} =$	<u>6.66</u>
Ship's Round of Beam	<u>7.00</u>
Difference	<u>.34</u>
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$	<u>.34 × 2016 / 4 = -0.02</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
„ overhang ...	<u>106.00</u>				
R.Q.D. enclosed ...	<u>105.00</u>	<u>105.00</u>	<u>4' 0"</u>	-	<u>106.00</u>
„ overhang ...					
Bridge enclosed... <u>equip.</u>	<u>10.39</u>	<u>10.39</u>	<u>7' 6"</u>	-	<u>10.39</u>
„ overhang aft ...					
„ overhang forward					
F'cle enclosed <u>equip.</u>	<u>22.26</u>	<u>22.26</u>	<u>6' 9"</u>	-	<u>22.26</u>
„ overhang ...	<u>3.74</u>	<u>1.87</u>			<u>1.87</u>
Trunk aft ...					
„ forward ...					
Tonnage opening aft ...					
„ „ forward					
Total ...	<u>142.39</u>	<u>140.52</u>			<u>140.52</u>

Standard Height of Superstructure	<u>6.0</u>
„ „ R.Q.D.	<u>3.507</u>
Deduction for complete superstructure	<u>23.6</u>
Percentage covered $\frac{S}{L} =$	<u>80.91</u>
„ „ $\frac{S_1}{L} =$	<u>79.84</u>
„ „ $\frac{E}{L} =$	<u>79.84</u>
Percentage from Table, Line A.	<u>75.10</u>
(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 = <u>23.6 × .751 = -17.72</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>27.60</u>	1		<u>27.60</u>	<u>36.75</u>	<u>42.75</u>	1		<u>42.75</u>
1/8 L from A.P. ...	<u>12.28</u>	4		<u>49.12</u>	<u>16.25</u>	<u>19.02</u>	4		<u>76.08</u>
3/8 L „ ...	<u>3.035</u>	2		<u>6.07</u>	<u>5.00</u>	<u>4.76</u>	2		<u>9.40</u>
Amidships ...	-	4		-	-	-	4		-
5/8 L from F.P. ...	<u>6.07</u>	2		<u>12.14</u>	<u>7.00</u>	<u>7.00</u>	2		<u>14.00</u>
7/8 L „ ...	<u>24.56</u>	4		<u>98.24</u>	<u>32.50</u>	<u>32.50</u>	4		<u>130.00</u>
F.P. ...	<u>55.20</u>	1		<u>55.20</u>	<u>73.50</u>	<u>73.50</u>	1		<u>73.50</u>
Total ...				<u>248.37</u>					<u>345.73</u>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{97.36}{18} \left(.75 - \frac{40.45}{345.73} \right) = -1.86$$

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.

Depth to <u>Raised Quarter</u> Deck	= <u>17.40</u>
Summer freeboard	= <u>4.19</u>
Moulded draught (d)	= <u>13.21</u>

 Deduction for Tropical freeboard and addition for
 Winter freeboard = $\frac{d}{4}$ inches = 3.30 = 3 3/4
 Addition for Winter North Atlantic Freeboard (if required) = 5 1/4

Deduction for Fresh Water.

Displacement in salt water at summer load water line	
$\Delta =$	<u>1405</u>
Tons per inch immersion at summer load water line	
T =	<u>9.87</u>
Deduction = $\frac{\Delta}{40T}$ inches	<u>3.56</u>
	<u>= 3 1/2</u>

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>2.26</u>	
Deduction for superstructures		<u>17.72</u>
Sheer correction		<u>1.86</u>
Round of Beam correction		<u>0.02</u>
Correction for Thickness of Deck amidships		
Other corrections, scantlings etc.		
<u>Raised quarter deck</u>	<u>48.00</u>	
	<u>50.26</u>	<u>19.60</u>
Summer Freeboard =	<u>50.36</u>	

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

Tropical Fresh Water Line above Centre of Disc	<u>3 3/4</u>
Fresh Water Line	<u>3 1/2</u>
Tropical Line	<u>0 1/4</u>
Winter Line below	<u>3 1/4</u>
Winter North Atlantic Line	<u>5 1/4</u>

Tropical Fresh Water Freeboard	<u>4' 2 1/4</u>
Fresh Water	<u>3' 10 1/2</u>
Tropical	<u>3' 10 3/4</u>
Winter	<u>4' 2 (limited)</u>
Winter North Atlantic	<u>4' 5 1/2</u>
	<u>4' 7 1/2</u>

13 NOV 1936

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MARKING FORM

30 NOV 1936

RECEIVED

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		No. 1		No. 2					
Dimensions of Hatchway		29'-4" / 15'-3"		31'-2" / 15'-3"					
COAMINGS	Height above Deck	4'-6"		3'-4"					
	Thickness	.42"		.42"					
	Sides	4" B.A.		7" B.A.					
	Ends	4" B.A.		7" B.A.					
Stiffeners		4" B.A.		7" B.A.					
Brackets, Stays		4" B.A.		7" B.A.					
HATCH BEAMS	Number	4		4					
	Spacing	5'-10" x 5'-11"		6'-3" x 6'-2 1/2"					
	Scantling and Sketch	14 1/2 x 33		12 x 33					
	Bearing Surface	L 3. 3 1/2 x 3 x 40		L 3. 3 1/2 x 3 x 40					
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch	✓		✓					
Bearing Surface									
HATCH COVERS	Material	W.P.		W.P.					
	Thickness	2 5/8"		2 3/4"					
	How fitted	7" x A.		7" x A.					
	Bearing Surface	3" x 3 1/2"		3" x 3 1/2"					
Spacing of Cleats		24"		24"					
Number of Tarpaulins		3		3					
<p>*Are wood fore and afters steel shod at all bearing surfaces? ✓</p> <p>Are battens and wedges efficient and in good condition? ✓</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? ✓</p> <p>Are lashings provided in accordance with rule requirements? ✓</p>									

Particulars of fiddle, funnel and ventilator coamings:— Stokhold gratings covered by strong steel hinged covers. ✓ Fiddle & funnel ventilators in efficient condition. ✓ Engine 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:—

1 vent on fore side dk. 10" diam, coaming 36" x 32 led to hold. ✓
 2 vents on fore " 6" " " 36" x 30 led to fore. ✓
 2 vents on dr " 10" " " 30" x 32 led to hold. ✓

All ventilators constructed in accordance with Rules & coamings closed with wood plugs & canvas covers. ✓

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

1 air pipe on fore side dk. — 23" high x 3" diam. from fore peak. ✓
 2 " pipes on main dk — 36" " x 3" " " D.B. Tanks. ✓
 2 " " " dr. " — 30" " x 3" " " aft peak. ✓
 1 " " " " " — 30" " x 3" " " " " ✓

Canvas covers as means of closing ✓

Particulars of Gangway Cargo and Coaling Ports:—

none



Particulars of Scuppers and Sanitary Discharge Pipes:— No scupper pipes discharging below freeboard dk. ✓
 Sanitary pipes from casing on dr. dk. & from forels. space led overboard ✓
 below freeboard deck & fitted with storm valves (y.m.) at ship's sides. ✓

Particulars of Side Scuttles:— No side scuttles below freeboard deck. ✓
 Side scuttles to forels. & bridge space fitted with hinged deadlights. ✓
 All side scuttles of substantial construction. ✓

Particulars of Guard Rails:— Guard rails on forels. dk. 3'-4" high having two rods ✓
 & stanchions spaced 4'-6" apart. ✓
 Steel bulwarks on forels. dk. in well 4'-6" high, ✓ Dr. dk. ✓
 3'-4" high & bridge dk. 3'-0" high efficiently constructed ✓
 & supported. ✓

Particulars of Gangways, Lifelines, etc.:—
 Wood gangway from Bridge to forels. led along top ✓
 of hatch with stanchions & lifeline. ✓

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Dr. dk. After Well ...	105.0' ✓	3'-4" ✓	2'-6" x 1'-4" ✓ 3'-0" x 1'-6" ✓	5 ✓ 1 ✓	21.13 ✓	21.00 ✓
Forward Well ...	34.83' ✓	4'-6" ✓	2'-6" x 1'-4" ✓	3 ✓	9.98 ✓	9.98 ✓
State position of each freeing port ... } Dr. dk. After Well:— from bridge to fore end of port — 8'-3" 17'-8" 23'-7" 40'-9" 55'-1" 72'-10" ✓ (F. and A. position and height above deck edge) } Forward Well:— " " to aft end of port 9'-1" 9'-0" — 19'-8" ✓ State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— h. above dk. Dr. dk. 6 1/2" — Well 8" ✓ Additional area where sheer is less than standard. Steel shutters ✓						

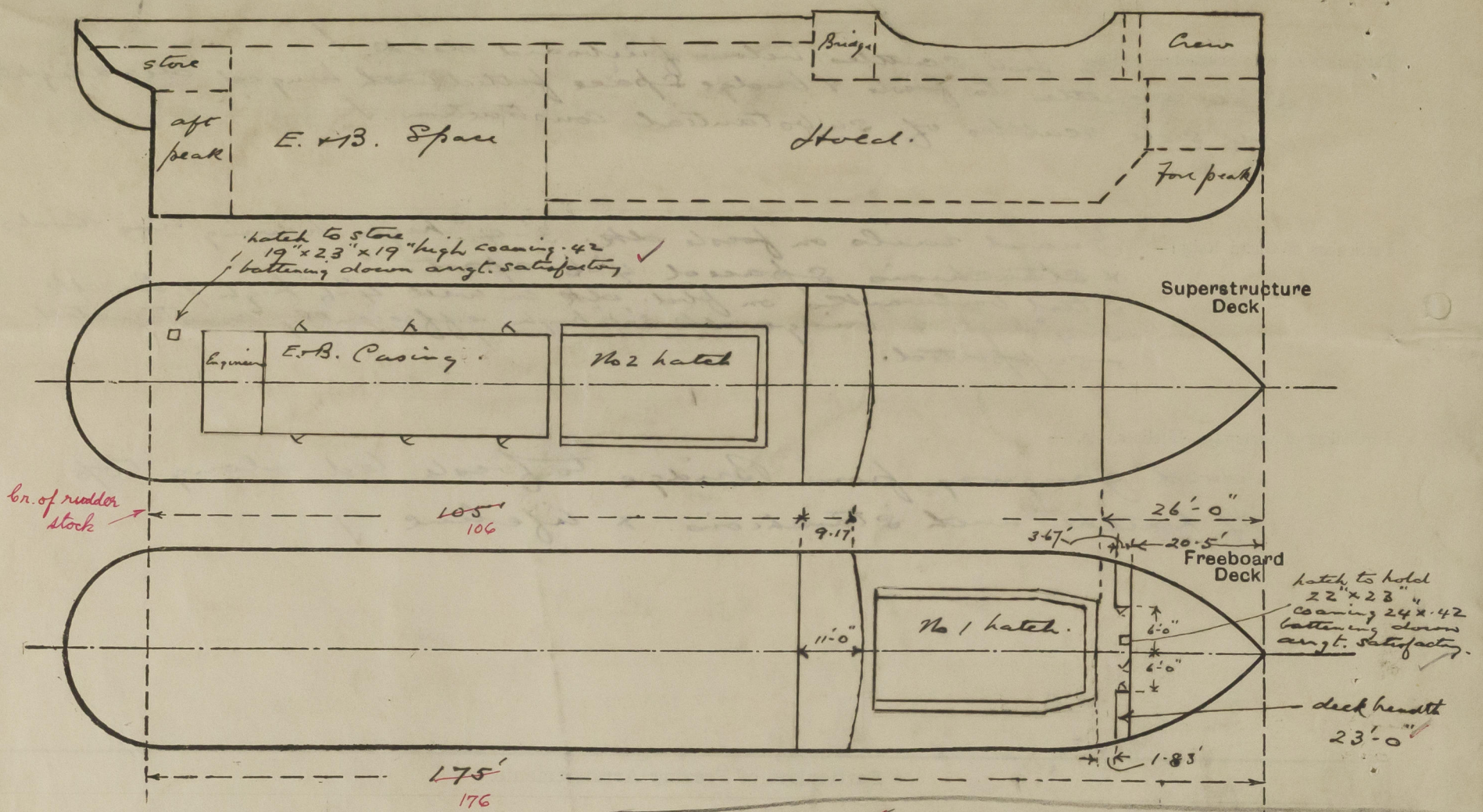
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ...	—	—	—	—	—	—	—	—
Raised Quarter Deck Bulkhead ...	—	.30 ✓	B.A. 6 x 3 x 30 ✓	24" - 30" ✓	Bracketed ✓	✓	✓	—
Bridge, After Bulkhead ...	—	—	—	—	—	—	—	—
Bridge, Forward Bulkhead30 ✓	.30 ✓	B.A. 6 x 3 x 30 ✓	28" ✓	Lugged top & bottom ✓	✓	✓	—
Forecastle Bulkhead ...	—	.26 ✓	3 x 3 x 30 ✓	27" ✓	✓	4'-8" x 2' ✓	16" ✓	—
Trunk, Aft ...	✓	—	—	—	—	—	—	—
Trunk, Forward ...	✓	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks30 ✓	.26 ✓	3 x 2 1/2 x 30 ✓	30" ✓	Bracketed at top ✓	4' x 2' ✓	25" ✓	6'-6" ✓
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 ...	no openings ✓
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	no openings ✓
Forecastle Bulkhead ...	Hinged steel doors workable both sides ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Hinged steel doors workable both sides. ✓
Exposed Machinery Casings on Superstructure Decks ...	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓
Deckhouses on Flush Deck Ships ...	✓



Crossbar

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:—



$$\begin{aligned} \text{Bridge} &= 9.17 \\ + \frac{2}{3} \times 1.83 &= 1.22 \\ \hline &= 10.39 \end{aligned}$$

$$\begin{aligned} \text{Fck} &= 24.17 \\ - \frac{12 \times 3.67}{23} &= 1.91 \\ \hline &= 22.26 \text{ equiv.} \end{aligned}$$

$$\begin{aligned} \text{overhang} &= 26.0 \\ - 22.26 \\ \hline &= 3.74 \end{aligned}$$

State any special features in the construction of the ship:— *New Vessel*

Approved midship Section & profile plans forwarded for reference. Freeboard request form also herewith.

Est. draught.	Est. displ.	Tons per inch.
13'	1350	9.80
12'	1228	9.65

Builder's name and yard number *A & J. Inglis Limited* *Yard No 988.P.*

Names of sister ships *-*

Owners *John Kelly Ltd. (W. Clint, Mgr.)*

Fee £ *8 0 0*

Received by me *[Signature]*



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