

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

25 APR 1932

Index. No. **3187**
(For London Office only.)

52374

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having *Raised Quarter deck & Bridge deck connected and*
Forecastle disconnected.

(Type of Superstructures.)

Port of Survey *Ayr.*Date of Survey *21.4.32*Name of Surveyor *M. Macleod.*Particulars of Classification *+100A1.*

Ship's Name *SAINT KENNETH.* Nationality and Port of Registry *British Dublin.* Official Number *146415.* Gross Tonnage *681.* Date of Build *1924/6.*

Moulded Dimensions: Length *185.* Breadth *28.5.* Depth *13.0.*
Moulded displacement at moulded draught = 85 per cent. of moulded depth *1200* tons
Coefficient of fineness for use with Tables *.721.*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <i>13.0.</i>	(a) Where D is greater than Table depth (D - Table depth) R = $(13.03 - 12.33) 1.423$ = <i>+1.00</i>	Moulded Breadth (B) <i>28.5.</i>
Stringer plate <i>38.</i> <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>-</i>	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{6.84}{50}$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ <i>✓</i>	If restricted by superstructures <i>✓</i>	Ship's Round of Beam = <i>8.5"</i>
Depth for Freeboard (D) = <i>13.03</i>		Difference <i>1.66"</i>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.66}{4} \times .238 = -.10"$

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	<i>105.</i>	<i>105.00</i>	<i>4</i>		<i>105.00</i>
" overhang	<i>10.39</i>				
Bridge enclosed	<i>10.39</i>	<i>10.39</i>	<i>7.0"</i>		<i>10.39</i>
" overhang aft	<i>9.3"</i>				
" overhang forward	<i>22.16</i>				
Fore enclosed	<i>22.16</i>	<i>22.16</i>	<i>7.0"</i>		<i>22.16</i>
" overhang	<i>6.84</i>	<i>3.42</i>			<i>3.42</i>
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	<i>144.39</i>	<i>140.97</i>			<i>140.97</i>

Standard Height of Superstructure *6.00*
" " R.Q.D. *3.567*
Deduction for complete superstructure *24.50*
Percentage covered $\frac{S}{L} = \frac{78.06}{100}$
" " $\frac{S_1}{L} = \frac{76.20}{100}$
" " $\frac{E}{L} = \frac{76.20}{100}$
Percentage from Table, Line A. *70.63%*
(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 = $24.50 \times .7063 = -17.30"$

SHEER CORRECTION.

R.Q.D. Actual = *4.000*
Standard = *3.567*

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>28.50</i>	<i>1</i>		<i>28.50</i>	<i>33.5</i>	<i>33.5</i>	<i>1</i>		<i>33.5</i>
$\frac{1}{4}$ L from A.P.	<i>12.68</i>	<i>4</i>		<i>50.72</i>	<i>14.78</i>	<i>14.78</i>	<i>4</i>		<i>59.12</i>
$\frac{2}{4}$ L "	<i>3.13</i>	<i>2</i>		<i>6.26</i>	<i>3.45</i>	<i>3.45</i>	<i>2</i>		<i>6.90</i>
Amidships	<i>✓</i>	<i>4</i>		<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>4</i>		<i>✓</i>
$\frac{3}{4}$ L from F.P.	<i>6.26</i>	<i>2</i>		<i>12.52</i>	<i>6.12</i>	<i>6.12</i>	<i>2</i>		<i>12.24</i>
F.P.	<i>25.36</i>	<i>4</i>		<i>101.44</i>	<i>24.5</i>	<i>24.5</i>	<i>4</i>		<i>98.00</i>
F.P.	<i>57.00</i>	<i>1</i>		<i>57.00</i>	<i>55.75</i>	<i>55.75</i>	<i>1</i>		<i>55.75</i>
Total	<i>256.60</i>			<i>256.44</i>					<i>251.43</i>

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{5.01}{18} = .278$

If limited on account of midship superstructure.

Mean actual sheer aft = *Excess*
Mean standard sheer aft = *Excess*Mean actual sheer forward = *Deficient*
Mean standard sheer forward = *Deficient*Length of enclosed superstructure forward of amidships = *.124 L*
" " aft of " = *.5 L*

Forward sheer.

Standard	Actual
<i>6.26</i>	<i>18.78</i>
<i>25.36</i>	<i>76.08</i>
<i>57.00</i>	<i>151.86</i>

Actual

Standard	Actual
<i>6.12</i>	<i>18.36</i>
<i>24.49</i>	<i>73.47</i>
<i>55.75</i>	<i>55.75</i>

= *.972 L*If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *17.03*
Summer freeboard = *4.42*
Moulded draught (d) = *12.61*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *3.15 = 3\frac{1}{4}*Addition for Winter North Atlantic Freeboard (if required) = *2"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line
1404
 $\Delta =$ *1390*

Tons per inch immersion at summer load water line

T = *10.2*Deduction = $\frac{\Delta}{40 T}$ inches = *3.44 = 3\frac{1}{2}"*

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.721 + .45}{1.36} = \frac{1.171}{1.36}$

	+	-
Depth Correction	<i>1.00</i>	<i>-</i>
Deduction for superstructures	<i>-</i>	<i>17.30</i>
Sheer correction	<i>.40</i>	<i>-</i>
Round of Beam correction	<i>.10</i>	<i>.10</i>
Correction for Thickness of Deck amidships	<i>-</i>	<i>-</i>
Other corrections, scantlings, etc. ... R.Q.D. ...	<i>48.00</i>	<i>-</i>

49.10 17.40 + 31.90

Summer Freeboard = *52.92*SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel Deck:

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Tropical Fresh Water Line above Centre of Disc ... *6\frac{1}{2}"*
Fresh Water Line " " ... *3\frac{1}{2}"*
Tropical Line " " ... *3\frac{1}{2}"*
Winter Line below " " ... *3\frac{1}{4}"*
Winter North Atlantic Line " " ... *5\frac{1}{4}"*

Tropical Fresh Water Freeboard ... *3 - 10\frac{1}{2}"*
Fresh Water " " ... *4 - 1\frac{1}{2}"*
Tropical (LIMITED) " " ... *4 - 2\frac{1}{2}"*
Winter " " ... *4 - 8\frac{1}{4}"*
Winter North Atlantic " " ... *4 - 8\frac{1}{4}"*

MARKING FORM

9 SEP 1936

MARKING FORM

RECEIVED

MARKING FORM

RECEIVED

8 AUG 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS						
"Minor Hatches"						
Description of Hatchway	Well No. 1	R.R.O. No. 2	Hatch on Fiddley Lp	Hatch to forepeak (divided) on R.R.O.	Hatch to aft peak on R.R.O.	
Dimensions of Hatchway	36'8" x 5'6"	31'2" x 15'6"	16' x 3'3"	3'7" x 23'	21' x 24'	
COAMINGS	Height above Deck	36"	30"	24"	18"	
	Thickness Sides	43"	43"	35"	35"	
	Thickness Ends	43"	43"	35"	35"	
	Stiffeners	7/8" x 40 Bt	7/8" x 40 Bt	none	35"	
	Brackets, Stays	7/8" x 40 Bt	7/8" x 40 Bt	none	none	
HATCH BEAMS	Number	6	5			
	Spacing	5'3"	5'2 1/2"			
	Scantling and Sketch	14 x 3 1/2 Plank	12 x 3 1/2 Plank	none	none	
	Bearing Surface	3"	do.			
FORE AND AFTERS	Number	none	none			
	Spacing					
	Unsupported Lengths					
	Scantling and Sketch					
	Bearing Surface					
HATCH COVERS	Material	White Pine	do.	do	W.P.	
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
	How fitted	fore and aft	fore and aft	fore and aft	fore and aft	
	Bearing Surface	3 1/2"	3 1/2"	2 1/2"	2 1/2"	
Spacing of Cleats	24"	24"	24"	24"	24"	
Number of Tarpaulins	2	2	2	2	2	

*Are wood fore and afters steel shod at all bearing surfaces? *Yes.*
Are battens and wedges efficient and in good condition? *Yes.*
Are tarpaulins in good condition and in accordance with rule requirements? *Yes.*
Are lashings provided in accordance with rule requirements? *Yes.*

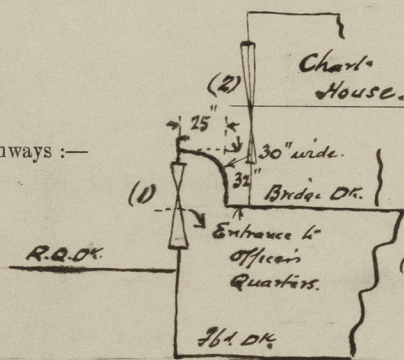
Particulars of fiddley, funnel and ventilator coamings:—

Stakehold gratings covered by strong steel hinged covers.
Fiddley and Funnel Ventilators in efficient condition.
Engine Room Skylight of steel, strongly constructed.

Particulars of Flush Bunker Scuttles:—

None.

Particulars of Companionways:—



(1) Entrance to officer's quarters through opening at aft end of Bridge, with Companionway on top of Bridge deck, made of steel.
Hardwood hinged door 1 1/2" thick, 4'5" x 1'10", 18" sill.
(2) Entrance to officer's quarters from steel deckhouse on Bridge deck.
Hardwood hinged door 1 1/2" thick, 5' x 1'10", 12" sill.
Doors manipulated from both sides.

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

One Ventilator on Forecastle Deck, 10" dia., 36" x 3/8" coaming led to fore hold.
One Ventilator on Raised Quarter Deck, 10" dia., 36" x 3/8" coaming led to aft hold.
Ventilators constructed in accordance with rule requirements.
Do plugs and canvas covers fitted.

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

One C.S. air pipe on Forecastle deck, immediately behind stem 9" high x 4" dia., led to fore peak tank.
One C.S. " " on Foreboard deck, under 2nd 36" high x 6" dia., led to No. 1 double bottom tank.
Two C.S. " " on Raised Quarter Deck, 3' above Bridge 30" high x 4" dia., led to No. 2 double bottom tank.
One C.S. " " on " " at aft end of casing 30" high x 2 1/2" dia., led to aft peak tank.
Do plugs and canvas covers fitted.

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes — No scuppers under freeboard deck.

Sanitary discharges from spaces above freeboard deck fitted with gunmetal storm valves at ship's side.

Particulars of Side Scuttles:—

No side scuttles below freeboard deck.
Side scuttles above freeboard deck fitted with hinged deadlights.
All scuttles of substantial construction.

Particulars of Guard Rails:—

Guard Rails on Forecastle deck 3'0" high — 2 rods, stanchions 4' apart.
Star Bulwark on Bridge deck, angle rail on top, 36" high, efficiently supported.
Star Bulwarks in "Well" and Raised Quarter deck, 4' and 3'5" high, efficiently supported.

Particulars of Gangways, Lifelines, etc.:—

Gangway more or less damaged. Stanchions & life line stated to be on board, but not rigged at this time.
Gangway and lifeline fitted from Bridge to Fore top of hatchway forming platform. Stanchions 3'0" above top of hatch spaced 8'9" fitted into permanent sockets riveted to hatch side coaming. Lifeline lashed at each end.

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Fore Well	105'	3'3"	2'6" x 1'6"	3	21'12"	21'12"
Forward Well	44'84"	4'0"	2'5 1/2" x 1'5 1/2"	3	10'45"	10'685"

State position of each freeing port:—
(F. and A. position and height above deck edge)
Fore Well: 12'3", 30'0", 44'0" from aft end of Bridge to fore end of port: 12'3" sill.
Forward Well: 1'10", 12'0", 22'4" from fore end of Bridge to aft end of port: 10'4" sill.
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—
Hinged shutters — no rods fitted.
Additional area where sheer is less than standard.

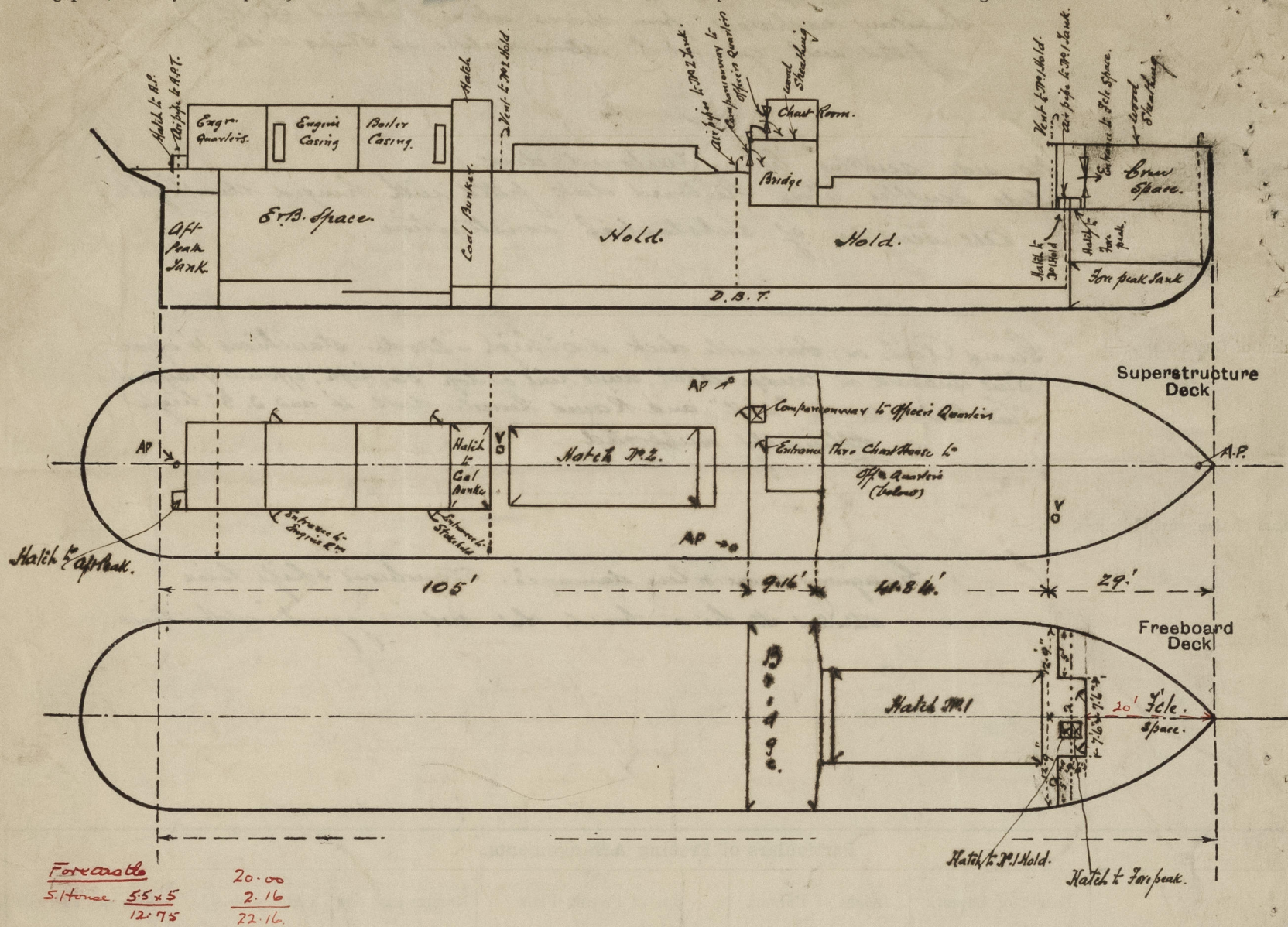
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead						Including Companionway		
Bridge, After Bulkhead	34'	30'	6 x 3 x 40 Bt.	30"	Brackets	4'5" x 1'10"	18"	
Bridge, Forward Bulkhead	34'	30'	6 x 3 x 40 Bt.	30"	"	None		
Forecastle Bulkhead	26'	28'	3 x 3 x 30'	30"		20' 4'8" x 1'10"	18"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Foreboard	34'	30'	4 x 2 1/2 x 28'	30"		20' each side 4'5" x 2'0"	18"	6'9"
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	Including Companionway
Bridge, After Bulkhead	One hinged hardwood door, 1 1/2" thick, manipulated from both sides.
Bridge, Forward Bulkhead	
Forecastle Bulkhead	Two hardwood hinged doors, 1 1/2" thick, manipulated from both sides.
Exposed Machinery Casings on Foreboard	Two steel hinged doors, 3/16" thick, manipulated from one side only.
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	One hardwood hinged door, 1 1/2" thick, manipulated from both sides.

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:—

*No timber line required.
Trade coasting.*

Summed Manholes = 12.55
1.58
13.13

D e 13.02

1390
14
1404

Builder's name and yard number

Scott & Sons, Bowling, N. 294.

Names of sister ships

Owners

J. Heaton & Co. Ltd. (R. Harper & Co. Ltd. Mgrs.)

Fee £ 6 : 16 : 0

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