

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~
having Poop, Bridge & Forecastle Decks.

(Type of Superstructures.)

Ship's Name "CLYDEFIELD" Nationality and Port of Registry British Newcastle. Official Number 149473. Gross Tonnage 6758. Date of Build 1928.7.

Moulded Dimensions: Length 419.41. Breadth 57.50. Depth 32.75.
Moulded displacement at moulded draught = 85 per cent. of moulded depth 15084 tons
Coefficient of fineness for use with Tables .787.

Port of Survey Birkenhead
Date of Survey February 21st 1933.
Name of Surveyor T. Richardson.
Particulars of Classification * 100.A.1.
Carrying petroleum in bulk.

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>32.75.</u>	(a) Where D is greater than Table depth (D - Table depth) R = $(32.81 - 27.96) 3 = + 14.55$	Moulded Breadth (B) <u>57.50.</u> Standard Round of Beam = $\frac{B \times 12}{50} = 13.80$ Ship's Round of Beam = <u>15.</u> Difference <u>1.20</u>
Stringer plate <u>.06</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Restricted to
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L_1} \right) = \frac{1.20}{4} \times .5864 = .18$
Depth for Freeboard (D) = <u>32.81</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>89.1</u>	<u>89.06</u>	<u>7.6</u>		<u>89.08</u>	Standard Height of Superstructure <u>7.50</u>
" overhang						" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure <u>42.00</u>
" overhang						Percentage covered $\frac{S}{L} = 42.52$
Bridge enclosed	<u>35.6</u>	<u>35.50</u>	<u>8.0</u>		<u>35.50</u>	" " $\frac{S_1}{L} = 41.36$
" overhang aft	<u>4.3</u>	<u>3.19</u>			<u>3.19</u>	" " $\frac{E}{L} = 41.36$
" overhang forward	<u>4.3</u>	<u>2.12</u>			<u>2.12</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Fore enclosed	<u>41.9</u>	<u>43.59</u>	<u>7.6</u>		<u>43.59</u>	Percentage from Table, Line B. <u>Yansen</u> <u>32.36</u> (corrected for absence of forecastle (if required))
" overhang	<u>4.3</u>					Interpolation for bridge less than .2L (if required)
Trunk aft						Deduction = <u>- 13.59</u>
" forward						
Tonnage opening aft						
" forward						
Total	<u>178.33</u>	<u>173.48</u>			<u>173.48</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>51.94</u>	1		<u>51.94</u>	<u>60</u>	<u>59.50</u>	1		<u>59.50</u>	Mean actual sheer aft = <u>Even</u> Mean standard sheer aft
$\frac{1}{2}$ L from A.P.	<u>23.11</u>	4		<u>92.44</u>	<u>26</u>	<u>26.46</u>	4		<u>105.84</u>	Mean actual sheer forward = <u>Even</u> Mean standard sheer forward
$\frac{3}{8}$ L "	<u>5.71</u>	2		<u>11.42</u>	<u>7</u>	<u>6.62</u>	2		<u>13.24</u>	Length of enclosed superstructure forward of amidships = <u>Yansen</u> aft of " =
Amidships		4					4			
$\frac{5}{8}$ L from F.P.	<u>11.43</u>	2		<u>22.86</u>	<u>6</u>	<u>12.84</u>	2		<u>25.68</u>	
$\frac{3}{4}$ L "	<u>46.23</u>	4		<u>184.92</u>	<u>50</u>	<u>51.34</u>	4		<u>205.36</u>	
F.P.	<u>103.88</u>	1		<u>103.88</u>	<u>114</u>	<u>114.0</u>	1		<u>114.00</u>	
Total				<u>467.46</u>					<u>523.52</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{467.46 - 523.52}{18} \left(.75 - \frac{.5374}{2} \right) = - 1.68$
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 $\Delta = 14579$	Correction for coefficient $\frac{787 + .68}{1.36} = \frac{1.467}{1.36}$
Depth to Freeboard Deck = <u>32.81</u>	Tons per inch immersion at summer load water line $T = 48.3$	Depth Correction <u>14.55</u>
Summer freeboard = <u>5.98</u>	Deduction = $\frac{\Delta}{40T}$ inches $= 7.55$	Deduction for superstructures <u>13.59</u>
Moulded draught (d) = <u>26.83</u>		Sheer correction <u>1.68</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.71</u> = <u>6$\frac{3}{4}$</u>		Round of Beam correction <u>.18</u>
Addition for Winter North Atlantic Freeboard (if required) = <u>4.19</u> = <u>4$\frac{1}{4}$</u>		Correction for Thickness of Deck amidships
		Other corrections, scantlings, etc.
		Summer Freeboard = <u>71.64</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>14$\frac{1}{4}$</u>	Tropical Fresh Water Freeboard	<u>4.9$\frac{1}{2}$</u>
Fresh Water Line " "	<u>7$\frac{1}{2}$</u>	Fresh Water " "	<u>5.4$\frac{1}{4}$</u>
Tropical Line " "	<u>6$\frac{3}{4}$</u>	Tropical " "	<u>5.5</u>
Winter Line below " "	<u>6$\frac{3}{4}$</u>	Winter " "	<u>6.6$\frac{1}{2}$</u>
Winter North Atlantic Line " "	<u>11</u>	Winter North Atlantic " "	<u>6.10$\frac{3}{4}$</u>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS						
Description of Hatchway			FORE HATCH TO CARGO HOLD.			
Dimensions of Hatchway			9'0"x9'0"			
COAMINGS	Height above Deck ... Thickness ... Sides Stiffeners ... Ends Brackets, Stays ...	80" AA" ✓ ✓				
HATCH BEAMS	Number ... Spacing ... Scantling and Sketch Bearing Surface ...	one. 4'6" Plat 10'-7x30 ang. 3'S x 40 3½"				
FORE AND AFTERS	Number ... Spacing ... Unsupported Lengths Scantling* and Sketch Bearing Surface ...	✓ 3/16 Plat steel				
HATCH COVERS	Material ... Thickness ... How fitted Bearing Surface ...	Plated 3/32 on (Sketch)				
Spacing of Cleats		18"				
Number of Tarpaulins						
<p>*Are wood fore and afters steel shod at all bearing surfaces? none.</p> <p>Are battens and wedges efficient and in good condition? where required. Yes.</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes.</p> <p>Are lashings provided in accordance with rule requirements? none required.</p>						

Particulars of fiddley, funnel and ventilator coamings:—

Slits hold gratings covered by strong steel hinged covers.
 Sunnee and Sidley Ventilatoirs in efficient condition
 Engine skylights of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

gone.

Particulars of Companionways :—

✓ 1. Under Deck. Entrance to Crew Wash House. opening in 18³/₈" Ø. 1'9" x 4'5". Steel Door 5'3" x 2'0" x 14" Sill. operated both sides

✓ 1. " " " Pump Room. " " " 1'11" x 4'0" " " 5'4" x 2'0" x 13" " " " " " "

✓ 1. aff. of Bridge. " " " amidships. Steel Door in Balcony 5'0" x 2'6" x 18" Sill. Hinged, operated both sides & 1 Dog

✓ 1. " " Gallery on Poop. Entrance to accom^{ts}. Below. opening in Poop Ø 3'0" x 6'0". Teak Door 5'4" x 2'0" x 10" Sill. operated both sides

1 1/2" frames. 1/4 panels.

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

FIELD D^K 1 @ 6" diam x 3.0' high x 4' to Crew. 2 @ 6" (mush) x 8' high to W.C. 2 @ 15" diam x 3.0' high x 4' to Joke Hold. 1 @ 12" diam x 3.0' x 4' to

BRIDGE D^K 4 @ 6" diam^{W.C.} x 12' high x 4' to Bridge Tower D^K ✓

POOF D^K 2 @ 6" diam x 8' high to Eng^{W.C.} Wash House. 1 @ 6" diam^{W.C.} x 12' high x 4' to Accom^{W.C.} Below. 1 @ 6" x 12' x 4' to Dynam

1 @ 6" diam x 12' x 4' to Accom^{W.C.} Below. 1 @ 6" diam (mush) x 8' high to Steering Sal: 4 @ 6" diam x 12' high x 4' to Accom^{W.C.} Below

FREEBOARD D^K 1 @ 12" diam^{W.C.} 5.0' high x 7/16 led to Forward Pump Room. 2 @ 18" diam x 11.3' high x 7/16 led to midship Pump Ro

Efficiently stayed to House. 2 @ 15" diam^{W.C.} on top of Pump Room Entrance House. 9.0' high x 7/16 to Pump Room.

all parts riveted in accordance with plans. Also, the rivets in the

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

1. W. Pipe on Fore Dk. 18" high x 3" dia from F. Peak. 2. W.P. on Dk. 3'0" high x 4" dia from Fore Deep Tank. ✓
 2. W.P. " 3'6" " 3'0" " x 3" " - 3. Cofferdam. 2. W.P. " " 2'10" " x 3" " after Cofferdam. ✓
 2. W.P. " " 2'10" " x 4" " - Fuel Tank. 2. W.P. " Poop = 2'4" " x 3" " C.D.B. Fuel Tank. Cofferdam
 2. W.P. " Poop = 2'4" " x 3" " - C.D.B. Fuel Tank. 2. W.P. " " 2'0" " x 3" " C.D.B. Lubricating Tank.
 1. W.P. " " 2'0" " x 3 1/2" " - after Peak Tank. 2. W.P. " " 7'0" " x 3 1/2" " - Fuel Tanks in C.D.B. ✓
 all air Pipes to Oil Tanks have gauge covers. remainder have canvas covers. ✓

Particulars of Gangway Cargo and Coaling Ports:—

None.

Particulars of Scuppers and Sanitary Discharge Pipes :—

Elbow Scupper 5' x 3 1/2" on Treboard Dk. 3/4 in fore well and 1 in after well.
all Sanitary Discharge pipes are fitted with non return valves.

Particulars of Side Scuttles:—

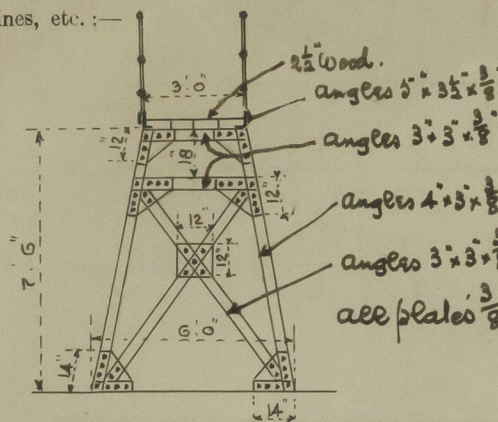
Particulars of Side Scuttles:—
all Side Scuttles below Treeboard & in Forward Tween Decks 9" Diam. fitted with hinged Deadlights.
Side Scuttles to Forecastle, Bridge & Poop Tween Decks 9" Diam. fitted with hinged Deadlights.
all Scuttles of substantial construction.

Particulars of Guard Rails :—

Particulars of Guard Rails									
Guard rails on Dorchester	3.4	high	with 3 rods and	blanchions	spaced	4.6	apart		✓
" " " Bridge	3.4	"	" 3	"	"	"	4.0	"	✓
" " " Poop	3.4	"	" 3	"	"	"	4.0	"	

Steel balustrade on 3rd. Fl. 3'6" high. Efficiently constructed + supported + bal. rails (see sketch) 3 rods + stanchions 1'6" apart.

Particulars of Gangways, Lifelines, etc. :—




Stanchions 3'3" high, 4'0" apart. 2 rods.

Spacing of gangway supports = fore well 9 from 6' to 10'.
" " " " = after " 14 " 7' " 9' 3".

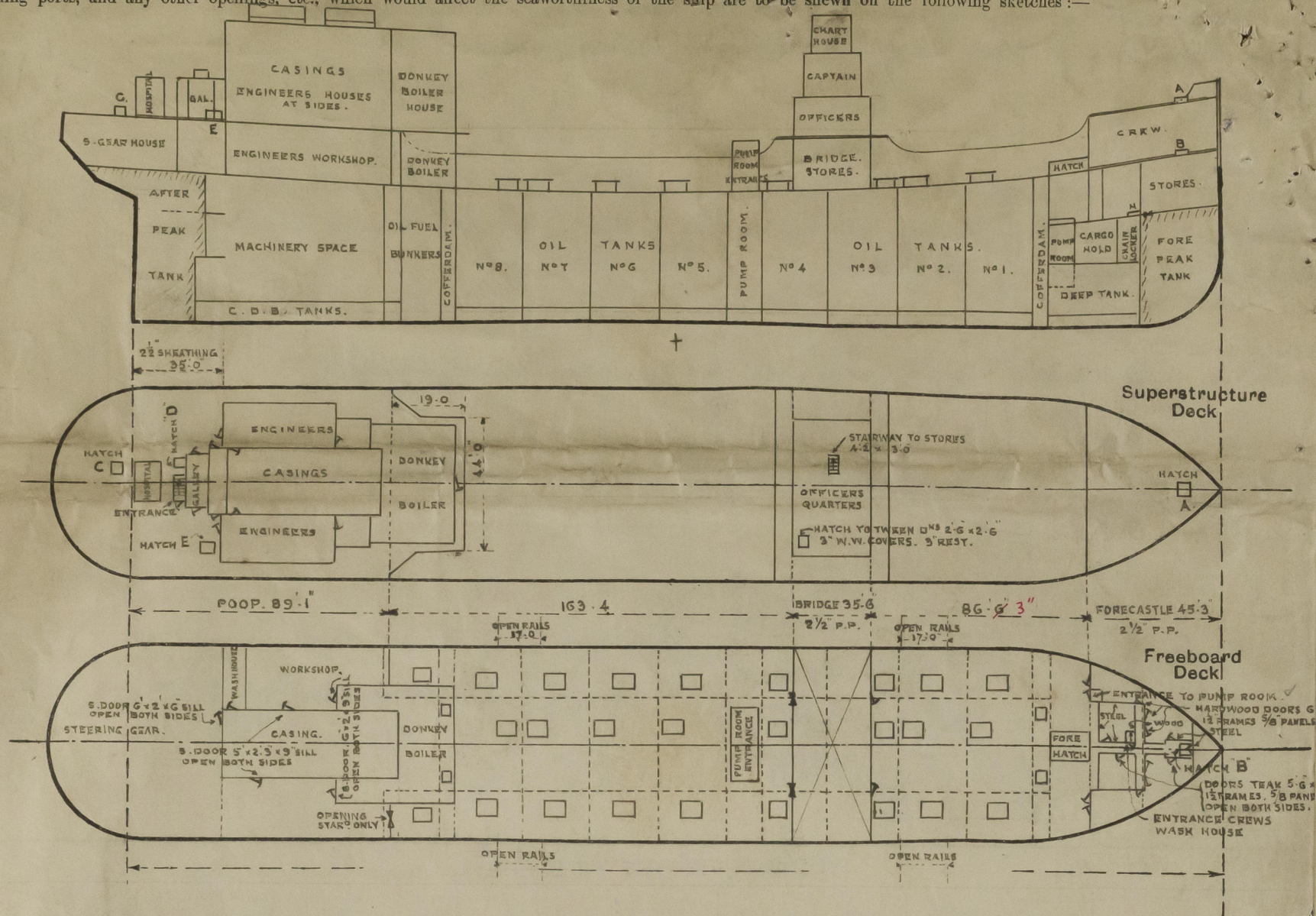
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	$163 \div 4$ 157.00	3.6	4.0×1.9 1.3×1.3 3.10×1.9 <i>See approved</i>	$\frac{5}{11}$ <i>Sketch attached</i>	$35.0 \times 1.56 = 110.26 \text{ ft}$ $73.70 \times 1.56 + 17 \text{ open miles}$	109.67 ft <i>with 17 open miles</i>
Forward Well	86.6 82.0	3.6	4.0×1.9 1.3×1.3 3.10×1.9	$\frac{3}{3}$	$21.00 \times 1.56 = 42.66 \text{ ft}$ $20.10 \times 1.56 + 17 \text{ open miles}$	42.54 ft 17.0 open miles
State position of each freeing port { After Well:— (F. and A. position and height above deck edge) { Forward Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— <i>2 Rods to each Wash Pool.</i> Additional area where sheer is less than standard.						

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	$\frac{1}{2}$ ✓	$\frac{7}{16}$ ✓	$10" \times 3\frac{1}{2} \times \frac{5}{8}$ B.A. each side ^{Boor.}	$2' 4"$	Brackets Top Lugs Bottom	$5' 0" \times 3' 0"$ (one side only)	18"	7' 6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	$\frac{1}{2}$	$\frac{1}{2}$	$3\frac{1}{2} \times 3 \times \frac{3}{8}$ A	$2' 10"$	✓	^{Two} $5' 0" \times 3' 0"$	18"	8' 0"
Bridge, Forward Bulkhead	$\frac{1}{2}$	$\frac{7}{16}$	$9\frac{1}{2} \times 3\frac{1}{2} \times \frac{5}{8}$ B.A.	$2' 7"$	Lugs Top + Bottom	^{Two} $5' 0" \times 3' 0"$	19"	8' 0"
Forecastle Bulkhead	✓	$\frac{1}{2}$ ✓	3" flanges	$2' 9"$	✓	See Sketch		7' 6"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Trunk Board or Raised Quarter Deck ...	$\frac{5}{16}$	$\frac{3}{16}$	$3 \times 3 \times \frac{5}{8}$	$2' 6"$	Brackets Top	$\left\{ \begin{array}{l} 1 @ 5' 0" \times 2' 3" \text{ (Boor.)} \\ 2 @ 5' 0" \times 2' 0" \\ 2 @ 5' 3" \times 2' 10" \end{array} \right.$	6" 10"	7' 6" Boor. 7' 6" above
Exposed Machinery Casings on Superstructure Decks		$\frac{5}{16}$	$3 \times 3 \times \frac{5}{8}$	$2' 6"$	✓	See Sketch		7' 6"
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	...	...	Steel	Peals Door $1\frac{1}{2}$ " fastened with Hook Bolts thro Door around B.A. Stiffeners at each side $\frac{1}{4}$ " bolts. 12" apart.
Raised Quarter Deck Bulkhead	...	...
Bridge, After Bulkhead	...	...		Fitted with 3" W.W. Slifting Boards in $1\frac{1}{2}$ " $2\frac{1}{2}$ " \times $\frac{7}{8}$ " channels. Full depth. ✓
Bridge, Forward Bulkhead	...	...		$\frac{1}{2}$ " Steel Ringed Doors, stiffened with $3\frac{1}{2}$ " \times $3\frac{1}{2}$ " \times $\frac{7}{16}$ " angles. fastened with Dog handles 17" $6\frac{1}{2}$ " apart. 10 in all. 
Forecastle Bulkhead	...	...
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...		Open alleyway ✓
Exposed Machinery Casings on Super-structure Decks	...	...		Steel Doors, manipulated both sides. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...		Steel Doors, manipulated both sides. ✓
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 shown on the following sketches:—



4.25
41.94
3.31

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

Vessel surveyed in Dry Dock.
S.S. No. 1 also in hand and will probably be completed.

Sketch showing approved plan of alterations to Wash Ports attached.
also plan of ~~proposed~~ alterations to Fore Hatch. *Alterations effected*
Displacement Scale also attached. Please return.

Builder's name and yard number *D & W. Henderson & Co. Ltd.* 808.M.

Names of sister ships

OWNERS *Hunting S.S. Co. Ltd.* (managers *Hunting & Sons Ltd.*)

Fee £ *14* : *9* : *0.*

Received by me



© 2020

Lloyd's Register
Foundation