

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 18 JUL 1932
 No 30974

Computation of Freeboard for Steamer, ~~Sailing Ship, Tug~~

having Raised Quarter Deck, Bridge, & Forecastle.
(Type of Superstructures.)

Port of Survey Sunderland.

Date of Survey 6th July 1932.

Name of Surveyor D. J. Paton

Particulars of Classification 100 A.1.
S.S. on No. 3-1-22
S.S. on No. 1-28

Ship's Name "SANDHILL" Nationality and Port of Registry British Newcastle Official Number 1147573 Gross Tonnage 505 Date of Build 1920

Moulded Dimensions: Length 164.83 Breadth 25.65 Depth 12.91
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1013 tons
Coefficient of fineness for use with Tables .764

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>12.91</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(12.91 - 10.99) × 1.268 = + 2.47</u>	Moulded Breadth (B) <u>25.65</u>
Stringer plate <u>.30</u> <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 6.16$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>8"</u>
Depth for Freeboard (D) = <u>12.94</u>		Difference <u>excess 1.84</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.84}{4} \left(1 - \frac{55.36}{144.64} \right) = - .21$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	<u>✓</u>					Standard Height of Superstructure <u>6.00</u>
" overhang	<u>✓</u>					" " R.Q.D. <u>3.432</u>
R.Q.D. enclosed	<u>57.2</u>	<u>57.17</u>	<u>4' 0"</u>		<u>57.17</u>	Deduction for complete superstructure <u>22.48</u>
" overhang	<u>✓</u>					Percentage covered $\frac{S}{L} = 56.16$
Bridge enclosed	<u>12.66</u>	<u>12.66</u>	<u>7' 0"</u>		<u>12.66</u>	" " $\frac{S_1}{L} = 55.36$
" overhang aft	<u>✓</u>					" " $\frac{E}{L} = 55.36$
" overhang forward	<u>✓</u>					Percentage from Table, Line A. <u>39.50</u> (corrected for absence of forecastle (if required))
F'cle enclosed <u>equi</u>	<u>19.1 1/2</u>	<u>20.11</u>	<u>7' 2"</u>		<u>20.11</u>	Percentage from Table, Line B. <u>✓</u> (corrected for absence of forecastle (if required))
" overhang	<u>3' 7 1/2</u>	<u>1.32</u>	<u>2 3/8 sheathing</u>		<u>1.32</u>	Interpolation for bridge less than 2L (if required)
Trunk aft	<u>✓</u>					Deduction = <u>22.48 × .3950 = - 8.88</u>
" forward	<u>✓</u>					
Tonnage opening aft	<u>✓</u>					
" " forward	<u>✓</u>					
Total	<u>92.58</u>	<u>91.26</u>			<u>91.26</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	<u>26.48</u>	1		<u>26.48</u>	<u>36.0</u>	<u>26.48</u>	1		<u>26.48</u>	Mean actual sheer aft = <u>excess</u> Mean standard sheer aft
1/8 L from A.P.	<u>11.78</u>	4		<u>47.12</u>	<u>17.77</u>	<u>11.78</u>	4		<u>47.12</u>	Mean actual sheer forward = <u>diff. 122.04</u> Mean standard sheer forward <u>144.16</u> = <u>86.4%</u>
2/8 L "	<u>2.91</u>	2		<u>5.82</u>	<u>4.43</u>	<u>2.91</u>	2		<u>5.82</u>	Length of enclosed superstructure forward of amidships = <u>nil</u>
Amidships		4		<u>0</u>			4			" " aft of " = <u>.02</u>
3/8 L from F.P.	<u>5.83</u>	2		<u>11.66</u>	<u>4.72</u>	<u>4.72</u>	2		<u>9.44</u>	
1/8 L "	<u>22.57</u>	4		<u>94.28</u>	<u>18.96</u>	<u>18.96</u>	4		<u>75.84</u>	
F.P.	<u>52.96</u>	1		<u>52.96</u>	<u>51.0</u>	<u>51.00</u>	1		<u>51.00</u>	
Total				<u>238.32</u>					<u>215.70</u>	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{22.62}{18} \left(.75 - \frac{2808}{14492} \right) = + .59$$

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 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 $\frac{764 + .68}{136} = \frac{1.444}{7.36}$
Depth to Freeboard Deck = <u>12.94</u>	$\Delta =$	Depth Correction <u>2.47</u>
Summer freeboard = <u>1.06</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>8.88</u>
Moulded draught (d) = <u>11.88</u>	T =	Sheer correction <u>.59</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>2.97 = 3"</u>	Deduction = $\frac{\Delta}{40 T}$ inches = <u>3"</u>	Round of Beam correction <u>.21</u>
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships <u>-</u>
		Other corrections, scantlings, etc. <u>-</u>
		<u>3.06</u> <u>9.09</u> <u>- 6.03</u>
		Summer Freeboard = <u>12.64</u>

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

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

Stanhope

Particulars of fiddley, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel covers. Permanently attached.
Stokehold & Engine room Ventilators in efficient condition.
Engine room skylight of steel. Strongly constructed.

Particulars of Flush Bunker Scuttles:-

NONE.

Particulars of Companionways :—

On Forecastle Deck. $\frac{1}{2}$ Crew space.
 $3'7" \times 3'0" \times 2'9"$ high. $\frac{3}{16}"$ steel.
 Opening $2'11" \times 2'0" \times 9"$ sill.
 20 steel door in halves. operated both sides.

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

positions on freeboard and superstructure decks:—

Two on Pile deck.	10½" dia. =	Coaming 1' 3" x 20.	% Hold.
Two " " "	7" dia. =	" 2' 5" x 20.	% Crew.
Two " " " fore well.	10½" dia. =	Coaming 2' 5" x 26	% Hold.
Three on Bridge	5½" dia. =	Coaming 13½" x 25.	% Accommodation
Two on R. Q. Sk.	5½" dia. =	" 13½" x 20	% " "
Two on " "	3½" dia.	S.N. 6" high to mouth.	% " "

Wood plugs & canvas
Covers fitted. ~~except~~ S.N. vents. *have covers only.*

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

Wood plugs + snifting holes.
to Air pipes.

Particulars of Gangway Cargo and Coaling Ports :—

NONE.

Particulars of Scuppers and Sanitary Discharge Pipes :—

One Sanitary discharge from Louisa Co., 5" dia.; led out below Freeboard Stk. + C.I. storm valve fitted.
one " " Engineer Accom. 3½" dia; led out below R.Q.Stk. + C.I. storm valve fitted.
Two Pipe scupperns from R.Q.Stk. led out below R.Q.Stk. ✓
One " " on Freeboard Stk. led out - Freebd Stk. ✓

✓

Particulars of Side Scuttles:—

6 in Forecastle 7" dia: with Portable C.I. Searchlights. ✓
4 in Bridge sides 9" dia: " " " " ✓
Strongly Constructed. ✓

Particulars of Guard Rails :—

steel bulwarks on R. Q. Stk. 3'4" high.
 steel " " freeboard Stk 3'7½" high.
 strongly constructed & supported.
 open rails on Bridge Stk. 3'0" high, 2 rods, 1 each rail, stanchions 3'0" apart.
 " " on File " 3'3" " 3 rods. stanchions 3'3" apart.

Particulars of Gangways, Lifelines, etc. :—

Fittings & Lifelines in Love Well. ✓

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
<i>Port Quarter Deck</i> State Well	57'-2" ✓	3'-4"	2.41' x 1.95'	3.	14.1 φ ✓	12.2 φ
Forward Well	72'-3" ✓	3'-7½"	2.41 x 1.91 2.87 x 2.0	3 1 oval	13.8 φ ✓ 4.9 φ ✓	14.5 φ
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				20 ¾" rods, horizontal. ✓		
Additional area where sheer is less than standard.						

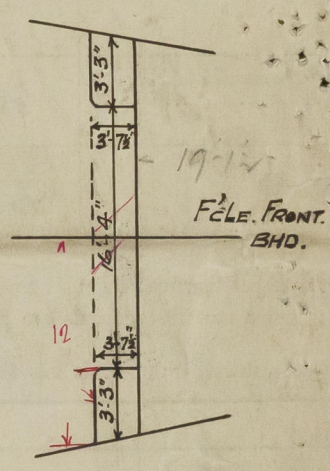
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead	3'2½" x .25	✓				none.	✓	3'2½"
Bridge, Forward Bulkhead	2'9½" x .375	.25	6" x 3" .40 L	27½" ✓	Brackets Top & Bottom ✓	none ✓	✓	7'-0"
Forecastle Bulkhead	2'-0" x .30	.25	3'2½" x .25 L	30" ✓	none	2@ 4'-3" x 1'-10" ✓	18"	7'-2"
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Free Raised Quarter Decks ...	18" x .375	.25	3" x 2½" x .25 L	33" ✓	Brackets at top to beams.	6@ 4'-3" x 1'-10" ✓	19" ✓	7'-
Exposed Machinery Casings on Superstructure Decks	✓					4@ 4'-9" x 2'-2" ✓	18" ✓	7'-
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)

Per Bulkhead	✓
Raised Quarter Deck Bulkhead ...	✓
Edge, After Bulkhead	✓
Edge, Forward Bulkhead	✓
Pre-cast Bulkhead	✓
Exposed Machinery Casings on the	✓
the Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-	✓
structure Decks	✓
Machinery Casings within Superstruc-	✓
tures not fitted with Class I Closing	✓
Appliances	✓
Lockhouses on Flush Deck Ships ...	✓

Two steel doors . 25. operated both sides to Crew Accomms. ✓
 Six steel doors . 25 operated both sides. to Lido, Gallery & Engine room. ✓
 Four oak doors . 1 3/4" thick with 7/8 Panels. operated both sides, to Engineers Accomms. ✓

Sand Bl.



The ship has been examined in Dry Dock.
The 2nd N^o. 2 Survey is also being held now. ✓

Gebr. Boot. Leiderdorp.

Gyne-Yees Steam Shipping Coy. Ltd.

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Received by me