

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

23766

10 JUL 1932

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

having *Poop, bridge and forecastle decks.*

(Type of Superstructures.)

Ship's Name <i>S/O THEM</i>	Nationality and Port of Registry <i>Swedish Hite</i>	Official Number <i>5597</i>	Gross Tonnage <i>688</i>	Date of Build <i>1914-7 mo.</i>
--------------------------------	---	--------------------------------	-----------------------------	------------------------------------

Port of Survey *Löbberborg*

Date of Survey *4th June, 1932*

Name of Surveyor *Asundén*

Particulars of Classification *100A1*

Moulded Dimensions: Length *184.0* Breadth *30.0* Depth *14.92*

Moulded displacement at moulded draught = 85 per cent. of moulded depth *1693* tons

Coefficient of fineness for use with Tables *749.*

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... <i>14.92</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(14.95 - 12.27) 1.415</i> <i>= 2.68 x 1.415 = 3.79</i>	Moulded Breadth (B) <i>30.0</i>
Stringer plate ... <i>.03</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{30.0 \times 12}{50} = 7.2$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <i>7 1/2</i>
Depth for Freeboard (D) = <i>14.95</i>		Difference <i>.3</i>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.3}{4} \times \left(1 - \frac{.4485}{.5} \right) = .02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height FT	Height Correction	Effective Length (E)	
Poop enclosed ...	<i>18.50</i>	<i>18.50</i>	<i>7.33</i>	-	<i>18.50</i>	Standard Height of Superstructure <i>6.0</i>
" overhang ...						" " R.Q.D. <i>3.56</i>
R.Q.D. enclosed ...						Deduction for complete superstructure <i>24.4</i>
" overhang ...						Percentage covered $\frac{S}{L} = 55.80$
Bridge enclosed ...	<i>53.17</i>	<i>53.17</i>	<i>7'-0"</i>	-	<i>53.17</i>	" " $\frac{S_1}{L} = 55.15$
" overhang aft ...	<i>1.25</i>	<i>.94</i>			<i>.94</i>	" " $\frac{E}{L} = 55.15$
" overhang forward ...	<i>1.75</i>	<i>.87</i>			<i>.87</i>	Percentage from Table, Line A.
Fore enclosed ...	<i>28.00</i>	<i>28.00</i>	<i>7'-0"</i>	-	<i>28.00</i>	(corrected for absence of forecastle (if required))
" overhang ...						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 = <i>10.04</i>
" " forward ...						
Total ...	<i>102.67</i>	<i>101.48</i>			<i>101.48</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate INS.	Effective Ordinate	S	M	Product	
A.P. ...	<i>28.4</i>	1		<i>28.40</i>	<i>20.5</i>	<i>20.50</i>	1		<i>20.50</i>	Mean actual sheer aft = <i>Deficient</i> <i>66.25%</i>
1/8 L from A.P. ...	<i>12.64</i>	4		<i>50.56</i>	<i>8</i>	<i>7.90</i>	4		<i>31.60</i>	Mean actual sheer forward = <i>Excess</i>
3/8 L " ...	<i>3.12</i>	2		<i>6.24</i>	<i>2</i>	<i>1.93</i>	2		<i>3.96</i>	Mean standard sheer forward
Amidships ...		4		<i>0</i>	<i>0</i>	<i>0</i>	4		<i>0</i>	Length of enclosed superstructure forward of amidships =
5/8 L from F.P. ...	<i>6.25</i>	2		<i>12.50</i>	<i>6</i>	<i>6.12</i>	2		<i>12.34</i>	" " aft of " =
7/8 L " ...	<i>25.28</i>	4		<i>101.12</i>	<i>24.5</i>	<i>24.49</i>	4		<i>99.08</i>	
F.P. ...	<i>56.8</i>	1		<i>56.80</i>	<i>62.0</i>	<i>62.00</i>	1		<i>60.08</i>	
Total ...				<i>255.62</i>		<i>255.62</i>			<i>227.56</i>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{28.06}{18} \left(.75 - \frac{.279}{.5} \right) = +.73$

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 Freeboard Deck = <i>14.95</i> Summer freeboard = <i>1.33</i> Moulded draught (d) = <i>13.62</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>3.41</i> Addition for Winter North Atlantic Freeboard (if required) = <i>5.41</i>	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40T}$ inches =	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{749.65 - 1.429}{1.35} = \frac{748.221}{1.35} = 554.24$ <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td><i>3.79</i></td> <td></td> </tr> <tr> <td>Deduction for superstructures ...</td> <td></td> <td><i>10.04</i></td> </tr> <tr> <td>Sheer correction ...</td> <td><i>.73</i></td> <td></td> </tr> <tr> <td>Round of Beam correction ...</td> <td></td> <td><i>.03</i></td> </tr> <tr> <td>Correction for Thickness of Deck amidships ...</td> <td></td> <td></td> </tr> <tr> <td>Other corrections, scantlings, etc. ...</td> <td></td> <td></td> </tr> <tr> <td></td> <td><i>4.52</i></td> <td><i>10.07</i></td> </tr> <tr> <td>Summer Freeboard =</td> <td><i>15.93</i></td> <td></td> </tr> </table>		+	-	Depth Correction ...	<i>3.79</i>		Deduction for superstructures ...		<i>10.04</i>	Sheer correction ...	<i>.73</i>		Round of Beam correction ...		<i>.03</i>	Correction for Thickness of Deck amidships ...			Other corrections, scantlings, etc. ...				<i>4.52</i>	<i>10.07</i>	Summer Freeboard =	<i>15.93</i>	
	+	-																											
Depth Correction ...	<i>3.79</i>																												
Deduction for superstructures ...		<i>10.04</i>																											
Sheer correction ...	<i>.73</i>																												
Round of Beam correction ...		<i>.03</i>																											
Correction for Thickness of Deck amidships ...																													
Other corrections, scantlings, etc. ...																													
	<i>4.52</i>	<i>10.07</i>																											
Summer Freeboard =	<i>15.93</i>																												

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 " " ...
	<i>15.93 = 405 mm</i>
	<i>19.34 = 491 mm</i>
	<i>21.34 = 542 mm</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		Freeboard deck	Fore deck	Popp deck					
Dimensions of Hatchway		34'-10" x 13'-11 1/2"	19' x 20"	25' x 20"					
COAMINGS	Height above Deck	4'-0"	13'	5 1/2"					
	Thickness	.50	.32	5 1/2 x 3 x 40 L					
	Stiffeners	.46							
	Brackets, Stays	6-4" x 4" x 56 each side.							
HATCH BEAMS	Number	6							
	Spacing	5'							
	Scantling and Sketch	11 1/2" x 12" x 34" PL 3" x 3" x 40 L							
	Bearing Surface	3 1/2"							
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
HATCH COVERS	Material	Wood	Shaped steel cov.						
	Thickness	2 1/2"	.26						
	How fitted	F 2 1/2"							
	Bearing Surface	2 1/2"							
Spacing of Cleats		22" x 23"	10"	None					
Number of Tarpaulins		3	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? *4 ring bolts and 4 eye bolts each side of each hatch.*

Particulars of fiddley, funnel and ventilator coamings: *Fiddley opening with hinged steel cover. B-room vents: 2-20" Hgt. 7' Thicken. 20. E- " " 2-20" " 5' " 26. Funnel plating .20 (Double funnel).*

Particulars of Companionways: *On poop deck: Plating .24. Opening 34" x 32". Hgt. of sill 10". Steel door, capable of being manipulated from both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks: *Hold vents in way of bridge and forecastle pass through bridge and fore decks and the height above those decks is 5'. Diam. 10". Thicken. 36". Height of hold vent. at front of poop 12' above fore deck supported to poop deck. Diam. 10". Thicken. 40". Poop deck: 3-6" Hgt. 10". Thicken. 32 fitted with W.T. screw covers. Ordinary vents fitted with covers and canvas.*

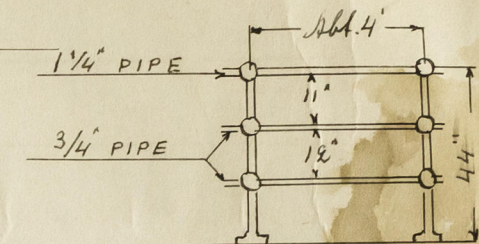
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *All air pipes flush with decks and fitted with brass screw covers.*

Particulars of Gangway Cargo and Coaling Ports: *✓*

Particulars of Scuppers and Sanitary Discharge Pipes: *No scuppers below foreward deck. One sanitary discharge pipe on each side in way of bridge are led overboard about 7' below foreward deck. The pipe on starboard side is led through the engine space and the pipe on port side through the coal bunker. Both are fitted with storm valves.*

Particulars of Side Scuttles: *All side scuttles are fitted with permanently attached inside deadlights.*

Particulars of Guard Rails: *Open rails on poop, bridge and fore decks.*



Particulars of Gangways, Lifelines, etc.: *After well - Gangway arranged over hatchway with stanchions for life lines 8'-9' apart. Forward well - None.*

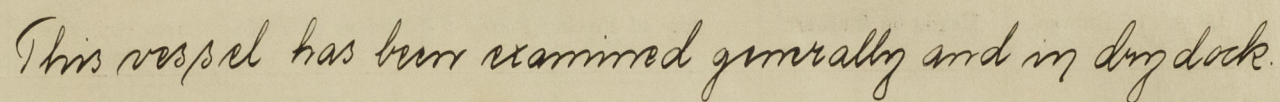
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	45.83'	5'	40" x 22"	2	12.2 sq	11 sq
Forward Well	38.5'	5'	40" x 22"	2	12.2 sq	10 sq

State position of each freeing port: *After Well: Poop bhd. 8' 8' Bridge after bhd. (F. and A. position and height above deck edge) Forward Well: Bridge fore bhd. 10' 10' fore bhd.*
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: *Balanced ports. No bars.*

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	18" x 44	.30	3 1/2" x 3 x 36 L	27" - 30"	Bolts T & B	None	-	7'-1"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead	18" x 40	.30	3 1/2" x 3 x 36 L	27" - 30"	Bolts T & B	7' x 3'-6"	None	7'
Bridge, Forward Bulkhead	18" x 44	.32	6 1/4" x 3 x 50 L	27" - 30"	" "	2'-6" x 2'-3"	3'	7'
Forecastle Bulkhead	18" x 40	.30	3 1/2" x 3 x 36 L	30"	" "	7' x 3'-6"	None	7'
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
Exposed Machinery Casings on Superstructure Decks	21" x 40	.28	3" x 3" x 36	24" - 29"	-	4' x 2'-1"	21"	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).	
Poop Bulkhead	<i>No opening</i>
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	<i>Portable plates and hook bolts spaced 8'-12' apart.</i>
Bridge, Forward Bulkhead	<i>Portable plates secured by bolts screwed through bhd. & stiff flange & nuts. Same as bridge after bulkhead. 3/4 bolts spaced 3 1/2" - 4' apart.</i>
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	<i>Hinged steel doors capable of being manipulated from both sides.</i>

OTHER



(Continued on sheet II)

A timber deck cargo freeboard is also desired

Sheet Forward

Actual	6.12.	24.49.	62.00.
Standard	<u>6.25</u>	<u>25.28</u>	<u>56.80</u>
Difference	- .13	- .79	+ 5.20
$\frac{16.25}{25} \times \text{Diff} =$	- .08	- .51	+ 3.38
Standard	<u>6.25</u>	<u>25.28</u>	<u>56.80</u>
	6.14 ✓	24.77	60.08

Grammaes Met. Værkes, Sandefjord.

Redningsaktiebolaget Vols, Stockholm

Received by me

Fee \$ *Kk.* : 150.00
Trans. exp. *Kk.* 25.00