

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Index No. **18661**
 (For London Office only.)

17 JUN 1932

No 3586

 Computation of Freeboard for Steamer, Sailing Ship, Tanker
 having poop, forecastle and bridge
Port of Survey StockholmDate of Survey 6/5/32Name of Surveyor R. J. AnderssonParticulars of Classification +100 A1Sw. Ins. No. 203-43

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
<u>Swarton</u>	<u>Swedish Stockholm</u>	<u>5333</u>	<u>2359</u>	<u>1906</u>
Moulded Dimensions: Length <u>299.0</u> Breadth <u>44.24</u> Depth <u>22.25</u>				
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>5740</u> tons				
Coefficient of fineness for use with Tables <u>.803</u>				

Depth for Freeboard (D)	
Moulded depth ...	<u>22.25</u>
Stringer plate ...	<u>0.04</u>
Sheathing on exposed deck	
$T \left(\frac{L-S}{L} \right) =$	
Depth for Freeboard (D) =	<u>22.29</u>

Depth correction	
(a) Where D is greater than Table depth (D-Table depth) R =	$(22.29 - 19.93) 2.30$ <u>2.36 x 2.30 = +5.43</u>
(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	—
If restricted by superstructures	—

Round of Beam correction	
Moulded Breadth (B)	<u>44.24</u>
Standard Round of Beam = $\frac{B \times 12}{50}$	<u>10.62</u>
Ship's Round of Beam	<u>11</u>
Difference	<u>Excess .38</u>
Restricted to	
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.38^2}{4} \left(1 - \frac{.5653}{43.45} \right)$ <u>.05</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S _i)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>25.0</u>	<u>25.00</u>	<u>7.0</u>		<u>25.00</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>74.0</u>	<u>74.00</u>	<u>7.0</u>		<u>74.00</u>
" overhang aft ...					
" overhang forward ...					
Fore enclosed <u>open</u> ...	<u>31.0</u>	<u>30.91</u>	<u>7.0</u>		<u>30.91</u>
" overhang ...	<u>11</u>				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>130.92</u>	<u>129.91</u>			<u>129.91</u>

Standard Height of Superstructure	<u>6.49</u>
" R.Q.D.	—
Deduction for complete superstructure	<u>35.27</u>
Percentage covered $\frac{S}{L} =$	<u>43.79</u>
" $\frac{S_i}{L} =$	<u>43.45</u>
" $\frac{E}{L} =$	<u>43.45</u>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	—
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	<u>30.43</u>
Interpolation for bridge less than .2L (if required)	—
Deduction = $35.27 \times .3043$	<u>10.73</u>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>39.90</u>	1		<u>39.90</u>	<u>45.0</u>	<u>45.00</u>	1		<u>45.00</u>
$\frac{1}{2}$ L from A.P. ...	<u>17.76</u>	4		<u>71.04</u>	<u>19.5</u>	<u>19.75</u>	4		<u>79.00</u>
$\frac{1}{4}$ L " ...	<u>4.39</u>	2		<u>8.78</u>	<u>5.25</u>	<u>4.94</u>	2		<u>9.88</u>
Amidships ...	—	4		—	0	—	4		—
$\frac{3}{4}$ L from F.P. ...	<u>8.79</u>	2		<u>17.56</u>	<u>11.5</u>	<u>10.77</u>	2		<u>21.54</u>
$\frac{1}{2}$ L " ...	<u>35.51</u>	4		<u>142.04</u>	<u>43.0</u>	<u>43.06</u>	4		<u>172.24</u>
F.P. ...	<u>79.80</u>	1		<u>79.80</u>	<u>99.0</u>	<u>99.00</u>	1		<u>99.00</u>
Total ...				<u>359.12</u>					<u>426.66</u>

 Mean actual sheer aft = Green
 Mean standard sheer aft =
 Mean actual sheer forward = Green
 Mean standard sheer forward =

 Length of enclosed superstructure forward of amidships = .121
 " " aft of " = .127

 Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \text{Green } \frac{67.54}{18} \left(.75 - \frac{.5311}{2139} \right) = \text{Green } 1.99$

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.
 Addition for Winter and Winter North Atlantic Freeboard.

 Ft.
 Depth to Freeboard Deck = 22.29
 Summer freeboard = 3.31
 Moulded draught (d) = 18.98

 Deduction for Tropical freeboard and addition for
 Winter freeboard = $\frac{d}{4}$ inches = 4.75
 Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

 Displacement in salt water at summer load water line
 $\Delta =$ 5812
 Tons per inch immersion at summer load water line
 $T =$ 27.92
 Deduction = $\frac{\Delta}{40T}$ inches = .520

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient	$\frac{.803 + .68}{1.36} = \frac{1.483}{1.36}$	<u>43.16</u>	<u>47.06</u>
Depth Correction	<u>5.43</u>		
Deduction for superstructures	—	<u>10.73</u>	
Sheer correction	—	<u>1.99</u>	
Round of Beam correction	—	<u>.05</u>	
Correction for Thickness of Deck amidships	—	—	
Other corrections, scantlings, etc.	—	—	
	<u>5.43</u>	<u>12.77</u>	<u>7.34</u>
Summer Freeboard =	<u>39.72</u>		

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:— 3-372

Tropical Fresh Water Line above Centre of Disc	...	<u>9.95</u>
Fresh Water Line	"	<u>5.20</u>
Tropical Line	"	<u>4.75</u>
Winter Line below	"	<u>4.75</u>
Winter North Atlantic Line	"	<u>6.75</u>

Tropical Fresh Water Freeboard	...	<u>3-1047</u>
Fresh Water	"	
Tropical	"	
Winter	"	
Winter North Atlantic	"	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
Description of Hatchway	1	2	3	4	5	6	7	8	9	10
Dimensions of Hatchway	24' x 16'-0"	24' x 16'-0"	24' x 15'-8"	24' x 15'-8"	48' x 2'-3"	30' x 2'-3"	35' x 18"	6' x 13'	5' x 2'-2"	
COAMINGS	Height above Deck	36"	36"	30"	30"	36"	36"	13"	8 1/2"	18 1/2"
	Thickness	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"	3/8"
	Stiffeners	none	none	none	none	none	none	none	none	none
	Brackets, Stays	2	2	2	2	none	none	none	none	none
HATCH BEAMS	Number	2	2	2	2					
	Spacing	8'-0"	8'-0"	8'-0"	8'-0"					
	Scantling and Sketch	3" x 9" x 36"	Same as no. 1	3" x 3" x 36"	Same as no. 1					
	Bearing Surface	3"	3"	3"	3"					
WOOD FORE AND AFTERS	Number	3	3	3	3					
	Spacing	4'-0"	4'-0"	4'-0"	4'-0"					
	Unsuported Lengths									
	Scantling and Sketch	7/8" x 6 1/2"	Same as no. 1	8" x 7"	Same as no. 1					
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood
	Thickness	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
	How fitted	3"	2"	2"	2"	2"	2"	2"	2"	2"
	Bearing Surface	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Spacing of Cleats	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"	2 1/4"
Number of Tarpaulins	2	2	2	2	2	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 fiddle, funnel and ventilator coamings: *Fiddle, funnel and ventilators fitted on top of a casing 7'-0" high. Fiddle grating fitted with hinged steel covers which can be closed. Funnel and ventilators in efficient condition.*

Particulars of Flush Bunker Scuttles: *None*

Particulars of Companionways: *On poop to crew space. 1 off steel, with wood hinged doors at sides, 5'2" x 28", sill 19" handle fitted both sides.*

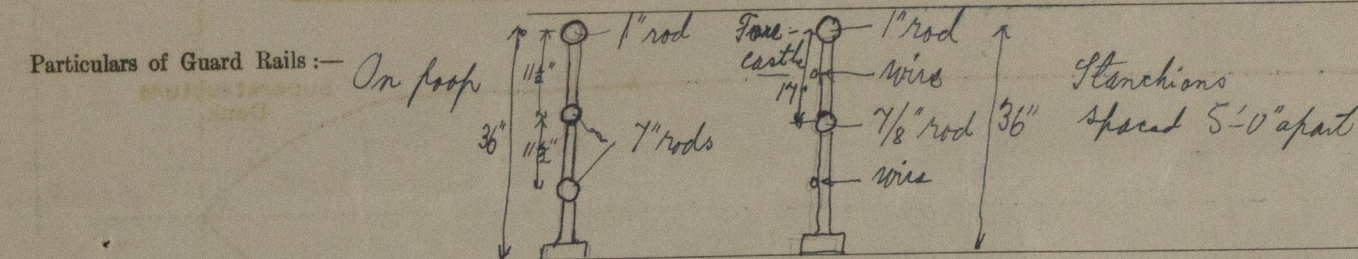
Particulars of Ventilators in exposed positions on freeboard and superstructure decks: *Freeboard deck: 2 to cargo holds forward and 3 ditto to cargo hold aft, height of coaming 36", diam. 14", thickness .32". Rivets on deck angles 4 1/2" apart. Wood covers and tarpaulins for closing fitted.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks: *2-2" air pipes on freeboard deck forward. 40" high goose neck. Wood plugs will be fitted for closing.*

Particulars of Gangway Cargo and Coaling Ports: *None*

Particulars of Scuppers and Sanitary Discharge Pipes: *The discharge pipes are led through the ship's sides above the freeboard deck. Flare valves fitted.*

Particulars of Side Scuttles: *All fitted over freeboard deck and with efficient dead lights, permanently attached.*



Particulars of Gangways, Lifelines, etc.: *Gangways laid between Nos 1-2 and 3-4 Hatchways and ropelines fitted as convenient.*

RETAIN

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	86.6'	46"	46" x 18"	3	172 sq ft.	
Forward Well	82.4'	48"	46" x 18"	4	230 sq ft.	

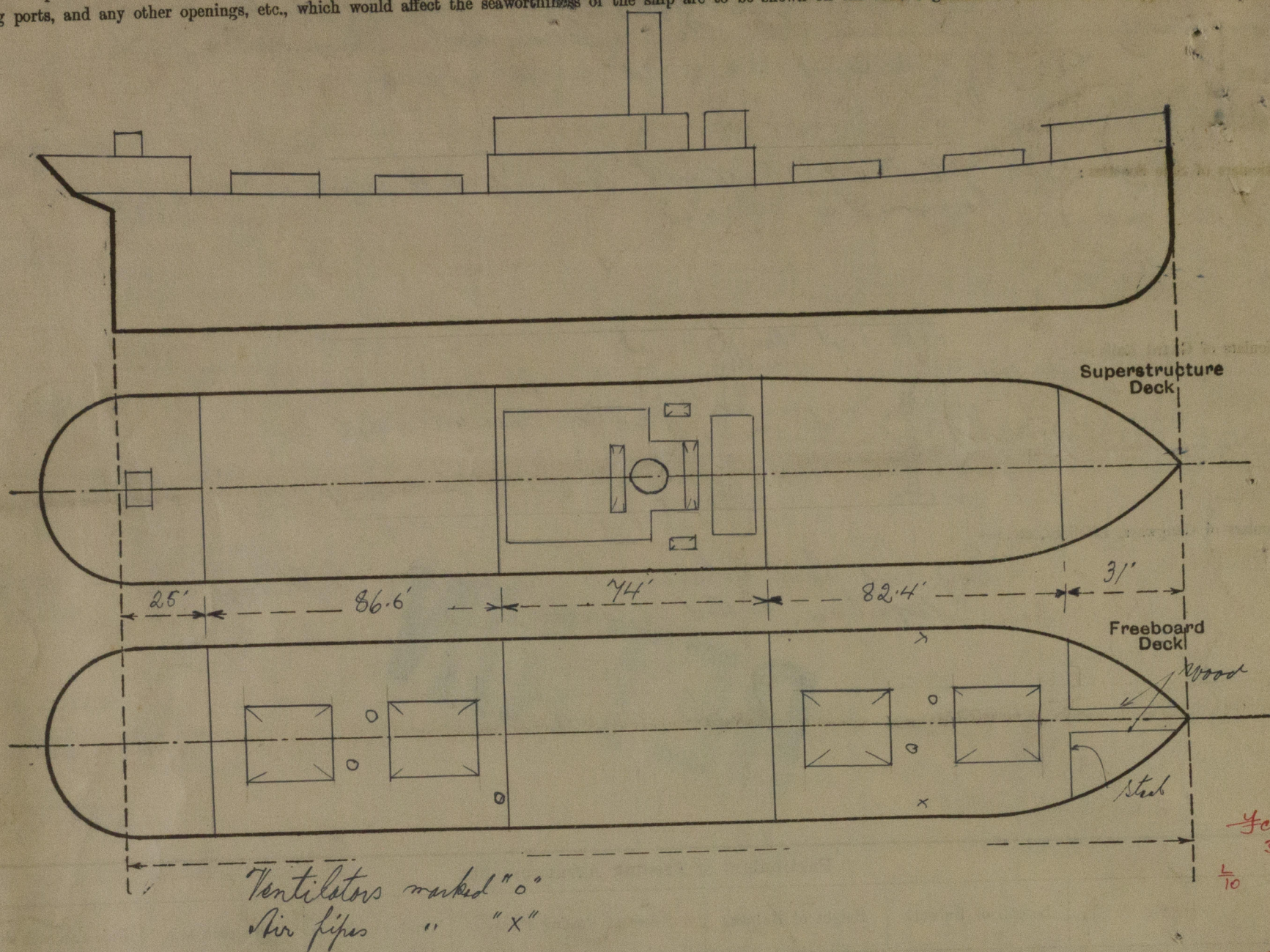
State position of each freeing port: *After Well: 14'-2", 44'-8", 74'-0" from poop front; lower edge 11" above deck. (F. and A. position and height above deck edge) Forward Well: 8'-6", 25'-6", 44'-8", 57'-4" from bridge front; lower edge 11" above deck.*
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: *3 rails fitted, but no shutters.*
 Additional area where sheer is less than standard: *2 moving pipes (steel upst) in each well.*

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	—	3/4"	—	27.5"	—	none	—	7'-0"
Raised Quarter Deck Bulkhead	—	3/2"	5 1/2" x 3 1/2" x 36"	36"	none	6' x 3'	4 1/2"	7'-0"
Bridge, After Bulkhead	—	3/2"	8 1/2" x 3 1/2" x 36"	28"	Brackets top and bottom	4'-4" x 36"	19"	7'-0"
Bridge, Forward Bulkhead	88" x 36"	3/2"	8 1/2" x 3 1/2" x 36"	28"	—	48" x 20"	20"	7'-0"
Forecastle Bulkhead	none	3/30	—	—	—	6' x 2"	12	7'-0"
Trunk, Aft	12' x 3"	wood	none	—	none	—	—	—
Trunk, Forward	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks	82" x 40"	3/2"	3' x 3" x 32"	38"	none	48" x 23"	22"	7'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	<i>Engine casing protected by deck house.</i>							
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	<i>Shutter on R.C. 30 11/29</i>
Bridge, After Bulkhead	<i>2 portable steel doors, having bolts spaced 12" apart and passing through blk. o door. Shut from outside.</i>
Bridge, Forward Bulkhead	<i>2 hinged</i>
Forecastle Bulkhead	<i>Steel doors to forecastle houses, wood doors to crew spaces in fore-castle. Handle both sides.</i>
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	
Exposed Machinery Casings on Superstructure Decks	<i>1 steel door (P.S.) with handle both sides.</i>
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships	

W438-0019 2/2

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:— Particulars for timber freeboard.

Deck house fitted on top of poop.
 Double bottom tanks. No watertight centre division fitted.
 Bulwark: 46" high in after well and 48" high in forward well, stiffened at upper edge by 6" x 3" x 4" x 20" and supported by 6" x 4" x 4" T angle spaced 6'-0" apart, efficiently lagged to the side plates.
 Uprights: Angle sockets will be fitted and riveted to stringer plates and spaced in accordance with regulations.
 Lashings: Eye plates for lashings will be fitted and riveted to the sheer strakes and spaced in accordance with regulations.
 Steering gear: The lead runs alongside hatchway Nos 3 & 4 and will be protected by wood casing when carrying deck cargo. A hand steering gear is fitted on poop clear of all cargo.

$$\text{Kell} = 2$$

$$\text{Summer mtd } 18.98 \quad 18-11\frac{3}{4} = 19-1\frac{3}{4} \quad \text{Int } \Delta^t @ 19-0 = 5763 \quad \text{TPI} = 27.92$$

$$\text{Int } \Delta^t @ 19-1\frac{3}{4} = 5763 + (1.75 \times 27.92) = 5812$$

Builder's name and yard number Robert Thompson & Sons (Ld) Sunderland. Yard no. 243

Names of sister ships

Owners Trafikaktieb. Grängesberg - Oxelösund

Fee £ Kr. 230.00

Received by me



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