

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Index. No. 18/20
(For London Office only.)

24 MAR 1933

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Shelter Deck with Tonnage Opening
(Type of Superstructures.)
Port of Survey Antwerp
Date of Survey 21st March 1933
Ship's Name THETIS Nationality and Port of Registry Greek SYRA Official Number 4.123 Gross Tonnage 1920.6 Date of Build 1920.6
Name of Surveyor C. F. Seton
Moulded Dimensions: Length 390.00 Breadth 53.54 Depth to upper deck 25' 8" 71
Moulded displacement at moulded draught = 85 per cent. of moulded depth 9763 tons
Coefficient of fineness for use with Tables 7.49
Particulars of Classification 1000A with freeboard 2.32

Depth for Freeboard (D) Moulded depth 25' 71"
Stringer plate 0.4
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$
Depth for Freeboard (D) = 25.75
Depth correction (a) Where D is greater than Table depth (D-Table depth) R = 25"
(b) Where D is less than Table depth (if allowed) (Table depth-D) R = (25.75-26.00) 3.0
If restricted by superstructures
Round of Beam correction Moulded Breadth (B) 53.54
Standard Round of Beam = $\frac{B \times 12}{50} =$ 12.85
Ship's Round of Beam = 13.50
Difference + .65"
Restricted to
Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L} \right) =$.65 (1.0076) Nil

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Roop enclosed	<u>24.75'</u>	<u>24.75</u>	<u>8' 0"</u>		<u>24.75</u>
" overhang	<u>2.00'</u>	<u>1.00</u>			<u>1.00</u>
R.Q.D. enclosed					
" overhang					
Bridge enclosed <u>2.5' 0"</u>	<u>356.50'</u>	<u>356.50</u>	<u>8' 0"</u>		<u>356.50</u>
" overhang aft	<u>2.25'</u>	<u>1.69</u>			<u>1.69</u>
" overhang forward					
Fore enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft	<u>4.50'</u>	<u>3.03</u>	<u>8' 0"</u>		<u>3.03</u>
" forward					
Total	<u>390.00'</u>	<u>386.97</u>			<u>386.97</u>

Standard Height of Superstructure 7.40
" " R.Q.D. -
Deduction for complete superstructure 41.33
Percentage covered $\frac{S}{L} =$ 100.0
" $\frac{S_1}{L} =$ 99.22%
" $\frac{E}{L} =$ 99.22%
Percentage from Table, Line A. 99.04
(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 = 41.33 x 99.04 = 40.93

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>49.00</u>	<u>1</u>		<u>49.00</u>	<u>51</u>	<u>58.20</u>	<u>1</u>		<u>58.20</u>
$\frac{1}{2}$ L from A.P.	<u>21.80</u>	<u>4</u>		<u>87.20</u>	<u>22</u>	<u>25.67</u>	<u>4</u>		<u>103.48</u>
$\frac{2}{3}$ L "	<u>53.9</u>	<u>2</u>		<u>107.8</u>	<u>52</u>	<u>6.47</u>	<u>2</u>		<u>12.94</u>
Amidships		<u>4</u>			<u>0</u>		<u>4</u>		
$\frac{2}{3}$ L from F.P.	<u>10.78</u>	<u>2</u>		<u>21.56</u>	<u>112</u>	<u>12.13</u>	<u>2</u>		<u>24.26</u>
$\frac{1}{2}$ L "	<u>43.60</u>	<u>4</u>		<u>174.40</u>	<u>45</u>	<u>48.53</u>	<u>4</u>		<u>194.12</u>
F.P.	<u>98.00</u>	<u>1</u>		<u>98.00</u>	<u>102</u>	<u>109.20</u>	<u>1</u>		<u>109.20</u>
Total				<u>440.94</u>					<u>502.20</u>

Mean actual sheer aft = excess
Mean standard sheer aft = excess
Mean actual sheer forward = excess
Mean standard sheer forward = excess
Length of enclosed superstructure forward of amidships = 6.55
" " aft of " = 7.2

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{61.26}{18} (.75 - .50) = .85$

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.

Ft.
Depth to Freeboard Deck = 25.75
Summer freeboard = 2.44
Moulded draught (d) = 23.31

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.83 3/4
Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ 10482
Tons per inch immersion at summer load water line
 $T =$ 41.8
Deduction = $\frac{\Delta}{40 T}$ inches = 6.27
6 1/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	<u>75</u>	
Deduction for superstructures	<u>40.93</u>	
Sheer correction	<u>.85</u>	
Round of Beam correction		
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	<u>42.53</u>	

Summer Freeboard = 29.35

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

Tropical Fresh Water Line above Centre of Disc	<u>12" = 305 1/2"</u>	Tropical Fresh Water Freeboard	<u>5 1/4" = 438</u>
Fresh Water Line " "	<u>6 1/4" = 159</u>	Fresh Water " "	<u>1 1/4" = 58 1/2</u>
Tropical Line " "	<u>5 3/4" = 146</u>	Tropical " "	<u>1 1/2" = 59 1/2</u>
Winter Line below " "	<u>5 1/4" = 146</u>	Winter " "	<u>2 1/4" = 89</u>
Winter North Atlantic Line " "		Winter North Atlantic " "	

Thetis

The openings of the coal chest are secured by a hinged steel cover secured by a hinged wing nut fastening

columns of fiddle, funnel and ventilator casings —
 3 ventilators 24" dia x 18" casings to Boiler Room! bolted on top of Fiddle with $\frac{1}{2}$ " bolts, average spacing 8 $\frac{1}{2}$ "
 4 " 18" " x 18" " to Engine Room " on top of casing or skylight, with $\frac{7}{16}$ " bolts spaced 6".
 All fiddle openings are provided with hinged steel covers. —
 Height of casing 8' 0" above the shelter deck. —

:- Row.

none.

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

On F'dl Deck.	2 off. 9" dia = 38" canopy = 36"	On Shelter Deck.	2 off. 24" dia = 11'6" high = 40" attached to F'dl Deck.
1 u 8" u = 38" u = 36"		2 u 24" u = 11'0" u = 40" u	to Root Deck off.
		4 u 21" u = 36" u = 42" u	
		5 u 12" u = 36" u = 36" u	
		2 u 10" u = 36" u = 36" u	

also 6 gooseneck ventilators to F'dl space.
spanning 40" above deck.

See also particulars of ventilators on top of main deckhouses at the end of the report.

and 2 gooseneck ventilators 10" high to Roof space.

All these ventilators & goosenecks are provided with wood plugs & canvas covers.
Protecting to steel decks to Risk's requirements

Particulars of Air Pipes in exposed positions on freeboard, raised quarter

On Fore Deck. 3" and 4" steel pipes, 19" high.

On Shelter Deck. 5" and 3 1/2" steel pipes, 28" high.

All air pipes are provided with wood flanges.

bone -

Two flap valve ruffers each side in shelter between Deck.
One " " " " in Tonnage Opening sp.
All these ruffers have been cemented over. — ✓

Shelter
Tw Beck.

43" 2" steel tube
 29" 3/4" bar
 16" 3/4" bar
 6" Stanchions 1 1/2" spaced 60".
 On Porcelain

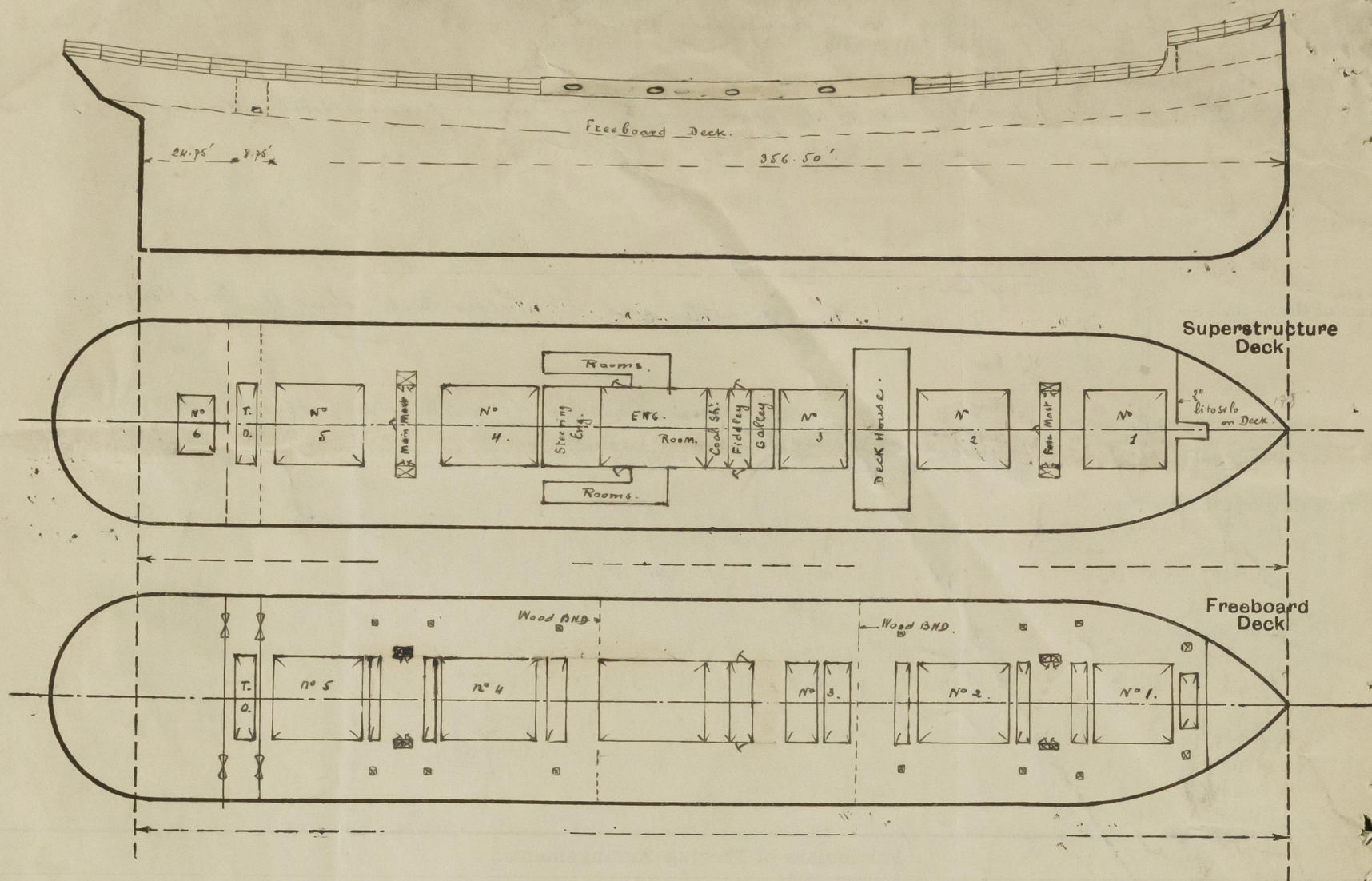
On Forreasth and on Shelter Deck, clear of Deck Houses, Canvass.

State position of each freeing port ... { After Well :— Fore end of Tonnage Opening. Lower edge, 6" above Deck
(F. and A. position and height above deck edge) { Forward Well :— At frames 74. 86. 96. 109. " " 8" " "
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— T
Tonnage Opening. Keelstrake shutter fitted, a keel clond with strongback inside
Additional area where sheer is less than standard. No shutters. 2 x 3 1/2" bars run along the keelstrake.

[illegible]

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	2 3/4" shifting boards in channels riveted to bulkhead, full height of the opening.
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	2 3/4" d° d° d° d° d° d°
Bridge, Forward Bulkhead	
Forecastle Bulkhead	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	{ To Fiddley. Steel hinged doors with ordinary locks.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	{ To E.R. Hard wood doors with ordinary locks.
Deckhouses on Flush Deck Ships ...	To Fiddley. Hinged steel doors with ordinary locks.

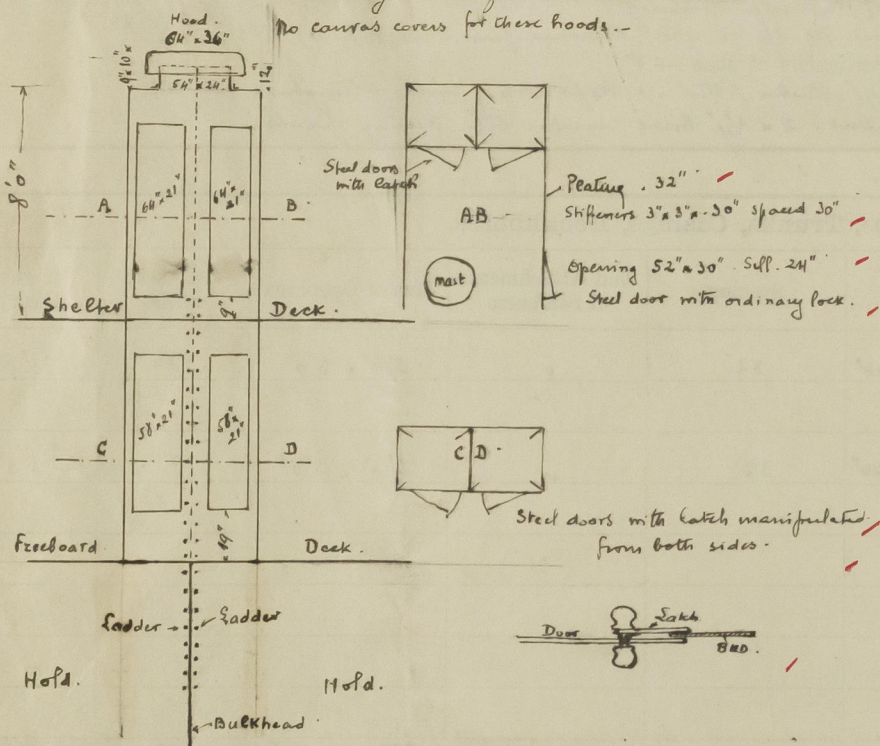
Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



State any special features in the construction of the ship:— *Trimming hatches on the freeboard deck. (7 each side in Holds.)*
24" x 24". Coaming [9 1/2 x 3 1/2 x 44". Flunged wood hatch 2 1/4', with 2 ring bolts and leather packing.]

Arrangement of Holds ventilators at Fore Mast & Main Mast deck Houses.—

No canvas covers for these hoods.



This vessel has been surveyed afloat and the survey confined to the hatchways, means of closing the openings etc.—

Sunderland's Surveyors have been requested to forward to London particulars of displacement and tons per inch.—

Owing to the two deck bulkheads being full the following particulars could not be ascertained:—

Particulars of hatchways & means of closing on the Freeboard Deck, in the two Deck bulkheads (No. 3 hatchway included).

Size of stiffeners and spacing, Etc. casing in Green Deck.—

Particulars of openings in Coal shoot trunk in Green Deck.—

The vessel has left Antwerp for Buenos Ayres where these particulars could be obtained and the new freeboard marked on the ship'sides.—

Handwritten signature: H. L. Taylor

Builder's name and yard number *W. Gray & Co. Ltd. Sunderland.*

Names of sister ships

Owners *Nereus Steam Nav. Co. Ltd. E. S. Harjilas Mgrs.*

Fee £ *Feb 3.000.* *23/3/33.* Received by me

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