

Preliminary Freeboard  
Particulars as supplied by Builders.  
**Lloyd's Register of Shipping.**  
**SURVEYS FOR FREEBOARD.**

10 AUG 1933

Index. No. **34371**  
(For London Office only.)

GLASGOW REPORT No. **53737**

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

having

*Poop Bridge & Forecastle*

Port of Survey

*Glasgow*

Date of Survey

*9th. Aug. 1933.*

Name of Surveyor

*A.W. Paterson*

Particulars of Classification

*+100 A1  
contemplated*

Ship's Name

Nationality and Port of Registry

*New Zealand*

Gross Tonnage

Date of Build

Moulded Dimensions: Length *270'* Breadth *42.5'* Depth *23'*  
Moulded displacement at moulded draught = 85 per cent. of moulded depth *4550* tons  
Coefficient of fineness for use with Tables *.710*

Depth for Freeboard (D)

Moulded depth ... *23.0'*  
Stringer plate (*.34"*) ... *.03*  
Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$  ☒  
Depth for Freeboard (D) = *23.03*

Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R =  $(23.03 - 18.00) 2.077$   
= *+ 10.45"*  
(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) *42.5'*  
Standard Round of Beam =  $\frac{B \times 12}{50} =$  *10.20"*  
Ship's Round of Beam = *10"*  
Difference *.20" deficient*  
Restricted to  
Correction =  $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.20}{4} \times .4555 = +.02"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<i>26.83</i>	<i>26.83</i>	<i>7'-3"</i>		<i>26.83</i>
" overhang ...					
R.Q.D. enclosedd ...					
" overhang ...					
Bridge enclosed ...	<i>95.50</i>	<i>95.47</i>	<i>7'-3"</i>		<i>95.47</i>
(including overhang aft)					
" overhang forward					
F'cle enclosed ...	<i>24.70</i>	<i>24.70</i>	<i>7'-3"</i>		<i>24.70</i>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	<i>147.00</i>	<i>147.00</i>			<i>147.00</i>

Standard Height of Superstructure *6.20'*  
" " R.Q.D. ☒  
Deduction for complete superstructure *33.00"*  
Percentage covered  $\frac{S}{L} = 54.45\%$   
"  $\frac{S_1}{L} = 54.45\%$   
"  $\frac{E}{L} = 54.45\%$   
Percentage from Table, Line A.  
(corrected for absence of forecastle (if required))  
Percentage from Table, Line B. *40.45%*  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than .2L (if required)  
Deduction =  $33.00 \times .4045 = -13.35"$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>37.00</i>	1		<i>37.00</i>	<i>39</i>	<i>39.00</i>	1		<i>39.00</i>
1/4 L from A.P. ...	<i>16.46</i>	4		<i>65.84</i>	<i>17.33</i>	<i>17.33</i>	4		<i>69.32</i>
1/2 L " ...	<i>4.07</i>	2		<i>8.14</i>	<i>4.29</i>	<i>4.29</i>	2		<i>8.58</i>
Amidships ...	<input checked="" type="checkbox"/>	4		<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	4		<input checked="" type="checkbox"/>
3/4 L from F.P. ...	<i>8.14</i>	2		<i>16.28</i>	<i>8.58</i>	<i>8.58</i>	2		<i>17.16</i>
1/4 L " ...	<i>32.92</i>	4		<i>131.68</i>	<i>34.66</i>	<i>34.66</i>	4		<i>138.64</i>
F.P. ...	<i>74.00</i>	1		<i>74.00</i>	<i>78</i>	<i>78.00</i>	1		<i>78.00</i>
Total ...	<i>333</i>			<i>332.94</i>					<i>350.70</i>

Mean actual sheer aft = *Excess*  
Mean standard sheer aft

Mean actual sheer forward = *Excess*  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = *> .1L*  
" " aft of " = *> .1L*

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{17.76}{18} (.75 - .2722) = -.47"$   
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 = *23.11'*  
Summer freeboard = *2.92'*  
Moulded draught (d) = *20.19'*

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = *5.05' = 5"*

Addition for Winter North Atlantic Freeboard (if required) = *2"*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$  *4755*  
Tons per inch immersion at summer load water line

$T =$  *23.3*  
Deduction =  $\frac{\Delta}{40T}$  inches = *5.10"*  
= *5"*

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

Depth Correction ... *10.45"*  
Deduction for superstructures ... *13.35"*  
Sheer correction ... *.47"*  
Round of Beam correction ... *.02"*  
Correction for Thickness of Deck amidships *1.00"*  
Other corrections, scantlings, etc. ... *-*

Summer Freeboard = *34.96'*

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

Tropical Fresh Water Line above Centre of Disc ...	<i>10"</i>	Tropical Fresh Water Freeboard ...	<i>2'-11"</i>
Fresh Water Line " " ...	<i>5"</i>	Fresh Water " " ...	<i>2'-1"</i>
Tropical Line " " ...	<i>5"</i>	Tropical " " ...	<i>2'-6"</i>
Winter Line below " " ...	<i>5"</i>	Winter " " ...	<i>3'-4"</i>
Winter North Atlantic Line " " ...	<i>7"</i>	Winter North Atlantic " " ...	<i>3'-6"</i>



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway									
Dimensions of Hatchway									
COAMINGS	Height above Deck	...							
	Thickness	Sides	...						
		Ends	...						
	Stiffeners	...							
	Brackets, Stays	...							
HATCH BEAMS	Number	...							
	Spacing	...							
	Scantling and Sketch		...						
	Bearing Surface	...							
FORE AND AFTERS	Number	...							
	Spacing	...							
	Unsupported Lengths		...						
	Scantling* and Sketch		...						
HATCH COVERS	Material	...							
	Thickness	...							
	How fitted	...							
	Bearing Surface	...							
Spacing of Cleats		...							
Number of Tarpaulins		...							

\*Are wood fore and afters steel shod at all bearing surfaces?  
 Are battens and wedges efficient and in good condition?  
 Are tarpaulins in good condition and in accordance with rule requirements?  
 Are lashings provided in accordance with rule requirements?

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles :—

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

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	...					
Forward Well	...					

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 :—  
 Additional area where sheer is less than standard.

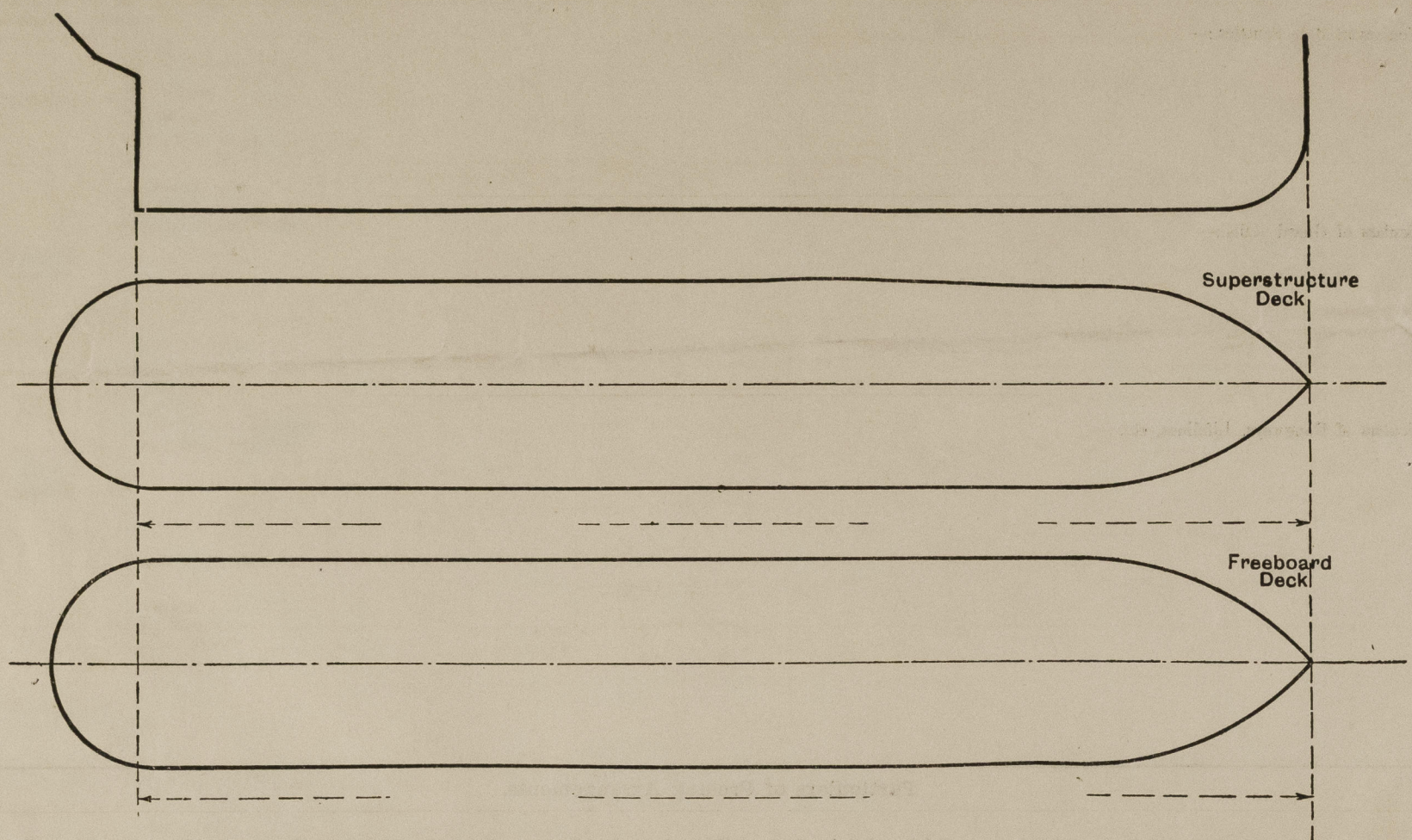
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	...							
Raised Quarter Deck Bulkhead	...							
Bridge, After Bulkhead	...							
Bridge, Forward Bulkhead	...							
Forecastle Bulkhead	...							
Trunk, Aft	...							
Trunk, Forward	...							
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	...							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead	...	Class II closing appliances
Raised Quarter Deck Bulkhead	...	
Bridge, After Bulkhead	...	no openings
Bridge, Forward Bulkhead	...	no openings
Forecastle Bulkhead	...	Class II closing appliances
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	...	



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:—

*Timber freeboard required.*

*Draught*  
20'  
21'

*Est displ.*  
4660  
4970

*Long per inch 23.3*

*Freeboard request form herewith, also midship section and profile plans for reference. Note. These plans are not yet approved but are at present being dealt with.*

Builder's name and yard number *Alexander Stephens & Sons Ltd. No 538.*

Names of sister ships *✓*

Owners *The Union Steamship Co. of New Zealand.*

Fee £ *10* : *0* : *0*

Received by me



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