

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

19717.

Ship's Name "PURIRI"	Official Number 93999	Nationality and Port of Registry NEW ZEALAND nelson	Gross Tonnage 900 927	Date of Build 1938	Port of Survey Lith
Moulded Dimensions: Length 186' Breadth 35' Depth 14'					Date of Survey White building
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1630 tons					Surveyor's Signature Evan Edwards
Coefficient of fineness for use with Tables .736					Particulars of Classification 100A1. "both freeboard"

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth ... 14.00	(a) Where D is greater than Table depth (D - Table depth) R = (14.04 - 12.40) 1.430 + 2.35" ✓	Moulded Breadth (B) 35.0'
Stringer plate04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{35.0 \times 12}{50} = 8.40" ✓$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = 8.75" ✓
Depth for Freeboard (D) = 14.04		Difference .35" excess
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.35}{4} \times 2988 = -.03" ✓$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed I ...	98.7	86.68	7.0		86.68
.. overhang ...	2.8				
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed II ...	12.02	11.84			11.84
.. overhang aft forward	2.80	1.40			1.40
.. overhang forward	29.14				
Fore enclosed EQUVALENT	29.6	29.14	7.0		29.14
.. overhang ...	2.2	1.35			1.35
Trunk aft ...	2.70				
.. forward ...					
Tonnage opening aft ...					
.. forward					
Total ...	133.34	130.41			130.41

Standard Height of Superstructure	6.00' ✓
.. R.Q.D.	
Deduction for complete superstructure	24.60" ✓
Percentage covered $\frac{S}{L} =$	71.70 ✓
.. $\frac{S_1}{L} =$	70.12 ✓
.. $\frac{E}{L} =$	70.12 ✓
Percentage from Table, Line A.	63.15 ✓
(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 = 24.60 x .6315 = - 15.53" ✓	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	28.60	1		28.60	30	30.00	1		30.00
$\frac{1}{8}L$ from A.P. ...	12.735	4		50.92	13 1/2	13.50	4		54.00
$\frac{2}{8}L$..	3.145	2		6.29	3 1/2	3.50	2		7.00
Amidships ...		4					4		
$\frac{3}{8}L$ from F.P. ...	6.29	2		12.58	7 1/2	7.50	2		15.00
$\frac{4}{8}L$..	25.45	4		101.80	30	30.00	4		120.00
F.P. ...	57.20	1		57.20	66	66.00	1		66.00
Total ...				257.39					292.00

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 = **.03L**
.. aft of .. = **.5L**

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{.13 - 2L} \right) = \frac{34.61}{18} \times \left(\frac{.75 - .3585}{.13 - 2L} \right) = -.75" \text{ (SEE BELOW)}$
If limited on account of midship superstructure. $.75 \times \frac{.2}{.2} = -.49"$

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.	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 1580 @ 11.6"$ Tons per inch immersion at summer load water line T = 12.75 Deduction = $\frac{\Delta}{40 T}$ inches = 3.10 ✓ = 3" ✓	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{.736 + .68}{1.36} = \frac{1.416}{1.36}$ Depth Correction ... 2.35 ✓ Deduction for superstructures ... 15.53 ✓ Sheer correction49 ✓ Round of Beam correction03 ✓ Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. REQUIRED DRAUGHT OF 11.6" 22.59 ✓ 24.94 - 16.05 + 8.89 ✓ Summer Freeboard = 30.50 ✓
Depth to Freeboard Deck = 14.04 Summer freeboard = 2.54 Moulded draught (d) = 11.50 Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2.88 = 3" ✓ Addition for Winter North Atlantic Freeboard (if required) = 5" ✓		

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

Tropical Fresh Water Line above Centre of Disc	...	6" ✓
Fresh Water Line	"	3" ✓
Tropical Line	"	3" ✓
Winter Line	below	3" ✓
Winter North Atlantic Line	"	5" ✓

Tropical Fresh Water Freeboard	...	2' - 6 1/2" ✓
Fresh Water	"	2' - 0 1/2" ✓
Tropical	"	2' - 3 1/2" ✓
Winter	"	2' - 9 1/2" ✓
Winter North Atlantic	"	2' - 11 1/2" ✓

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

The following Plans are forwarded herewith:-

Structural sections
 Profile Decks & Bulkheads.
 Pumping Plan
 Scantling Plan MacGregor's Patent Steel Hatch Covers.
 Pillars, Girders, & Cargo Hatchways.
 General Arrangement, as built.

Forecastle $\frac{29.64}{.50}$
 $\frac{29.14}{\text{equivalent}}$

Necess $\frac{5 \times 3}{30.25} = .50$

Equivalent overhang $2.20 + .50 = 2.70$

Total length of long poop $98.70' = 53.07\%$ of length.

70% allowance for 70% L
 100% " " 50% L

$\frac{3.07}{20} \times 100 = \frac{1.53}{98.47\% \text{ allowance}}$

Trade of ship cargo

Names of sister ships ✓

Builder's name and yard number Henry Robb & Co 273

Owners The Anchor Shipping and Foundry Co & Co.

Fee £ 8 0 0

(To be charged with F.E. & S.S. fees)



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