

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. 32018
(For London Office only.)

27 JAN '36

MEL. Rpt. No 6039.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having 2 Decks (4 Deck Steel - Deck S.), 3rd deck clear of machinery space
Flush Deck.

(Type of Superstructures.)

Port of Survey **MELBOURNE**Date of Survey 17th 19th December 1935.

Name of Surveyor B. P. Fielden

Particulars of Classification 100 A - with flr
S. S. No 3 1.25
S. S. No 2 33. ✓ Pilot Vessel.

Ship's Name **"AKUNA"** Nationality and Port of Registry **BRITISH MELBOURNE** Official Number **151823** Gross Tonnage **953** Date of Build **1911**

Moulded Dimensions: Length **193.0** Breadth **31.1** Depth **23'-3 1/2"** (estimated)
Moulded displacement at moulded draught = 85 per cent. of moulded depth **2308** tons
Coefficient of fineness for use with Tables **.68** (linear - Tables)

Depth for Freeboard (D)

Moulded depth ... **23.291**

Stringer plate **3.4** ... **.028**

Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) = 2 \frac{1}{2}$... **.208**

Depth for Freeboard (D) = **23.527**

Depth correction

(a) Where D is greater than Table depth **10.657**
(D-Table depth) R = $(23.527 - 12.87) \times 1.485$
= **+ 15.82**

(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) **31.1**

Standard Round of Beam = $\frac{B \times 12}{50} = 7.46$

Ship's Round of Beam = **7.5**

Difference **Excess .04**

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.04}{4} \times 1 = .01$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...					
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward ...					
Total ...					

Standard Height of Superstructure **6.00**

" " R.Q.D. **✓**

Deduction for complete superstructure **25.30**

Percentage covered $\frac{S}{L} =$ **flush deck.**

" " $\frac{S_1}{L} =$

" " $\frac{E}{L} =$

Percentage from Table, Line A.
(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 = **Nil**

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	29.30	1	29.30	18.0	18.00	1	18.00
1/4 L from A.P. ...	13.04	4	52.16	4.74	4.74	4	18.96
1/2 L " ...	3.22	2	6.44	1.18	1.18	2	2.36
Amidships ...	✓	4	✓	0	✓	4	✓
3/4 L from F.P. ...	6.44	2	12.88	5.32	5.32	2	10.64
3/4 L " ...	26.08	4	104.32	21.33	21.33	4	85.32
F.P. ...	58.60	1	58.60	57.0	57.00	1	57.00
Total ...			263.70				192.28

Mean actual sheer aft = **Deficient**
Mean standard sheer aftMean actual sheer forward = **Deficient**
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = **Nil**" " aft of " = **Nil**Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{71.42}{18} \times .75 = + 2.98$ 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 = **23.53**

Summer freeboard = **7.79**

Moulded draught (d) = **15.74**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **See page 4.**Addition for Winter North Atlantic Freeboard (if required) = **4.2 = 6**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40 T}$ inches $\frac{1}{4} = 3.93$
= **4**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

Position of lowest side-scantling

+	-
15.82	-
-	-
2.98	-
-	.01
-	-
49.91	-
68.71	.01

Summer Freeboard = **93.50**

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

Tropical Fresh Water Line above Centre of Disc ... **4"**

Fresh Water Line " " ... **4"**

Tropical Line " " ... **Nil**

Winter Line below " " ... **2 3/4"**

Winter North Atlantic Line " " ... **4 3/4"**

Tropical Fresh Water Freeboard ... **7'-9 1/2"**

Fresh Water " ... **7'-5 1/2"**

Tropical " ... **7'-9 1/2"**

Winter " ... **8'-0 1/4"**

Winter North Atlantic " ... **8'-2 1/4"**

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	5'-10" x 6'-10"					
Dimensions of Hatchway	...	...	...			
COAMINGS	Height above Deck	...	...	18 1/2"					
	Thickness	...	...	31"					
	Stiffeners	...	...	31"					
	Brackets, Stays	...	...	✓			
							
HATCH BEAMS	Number	...	...				
	Spacing	...	...				
	Scantling and Sketch	...	...	✓			
							
	Bearing Surface	...	...				
FORE AND AFTERS	Number	...	...				
	Spacing	...	...				
	Unsupported Lengths	...	...				
	Scantling* and Sketch	...	...	✓			
	Bearing Surface	...	...				
HATCH COVERS	Material	...	...	Rigid wood covers					
	Thickness	...	...	3"					
	How fitted	...	...				
	Bearing Surface	...	...	2"					
Spacing of Cleats	...	...	...	23"					
Number of Tarpaulins	...	...	...	2					
*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 fiddle, funnel and ventilator coamings:— On Bridge Deck 7'-7 1/2" above freeboard deck. Funnel casing carried full height of funnel. No fiddle gratings. Fiddle uptakes around funnel casing with coaming 15" in height above bridge deck and fitted with hoop. Engine Room skylights of strong steel construction.

Particulars of Flush Bunker Scuttles:—

Two each side on freeboard deck, 17" dia, with cast iron covers 1" thick secured by bayonet joints.

Particulars of Companionways:— One forward 5'-0" x 3'-0". Coaming 19" high by 31" thick. Hinged steel cover 31" thick stiffened by two angles 2" x 2" x 25" and secured on watertight joint by 8 screw fastenings. One each side amidships 3'-6" x 2'-7". Coaming 12" high x 31" thick. Hinged steel cover 31" thick secured by wedge fastenings manipulated from both sides.

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

Forward 6-12" dia with coamings 25" high. Aft 2-14" dia, 2-12" dia, 4-9" dia. Supplied with wood plugs & canvas covers. Amidships 8" x 4" cast iron swan neck vents, fitted with hinged cast iron covers, 7 screw fastenings.

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

Cast iron swan neck type 2" dia, height 17", height to opening 10", fitted with hinged cast iron covers and screw fastenings.

Particulars of Gangway Cargo and Coaling Ports:— Four each side. Openings 3'-0" x 2'-0". Doors 50" thick, hinged on upper edge, closing on W.T. joint and secured by one wedge handle each side engaging in slot in frames and by two screw fastenings at bottom. Side 35" below steel freeboard deck. RSH HOPPERS noted on previous freeboard report were taken out. Ash discharge doors in ship's sides (1 each side):— 1'-4" x 1'-4". Doors 75" thick hinged on upper edge, closing on W.T. joint and secured by 3 screw fastenings. Side 6'-2 1/2" below steel freeboard deck.

Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharges from within deck houses on the upper deck, and from spaces on main deck and also from all scuppers from the main deck all discharge in one line below the main deck. Each discharge is fitted with one automatic storm valve enclosed in cast steel or brass casing. The lowest point of the lowest discharge is 9'-5 1/2" below top of wood on freeboard deck, at side, amidships. Sanitary discharges from 2nd deck fitted with automatic storm valve already accessible.

Particulars of Side Scuttles:— Below main Deck forward:— Two each side 10" dia with brass frames and fitted with steel outside plugs and cast iron hinged inside deadlights. The sill of lowest side scuttle is 7'-3 1/2" below top of wood on freeboard deck at side, amidships. Below upper Deck:— 14" dia with brass frames. Those within 24 feet of the forward perpendicular fitted with cast iron hinged inside deadlights.

Particulars of Guard Rails:—

3'-4" in height with two bars and teak rail.

Particulars of Gangways, Lifelines, etc.:—

Access fore and aft on main Deck. Lifelines rigged on upper Deck when required.

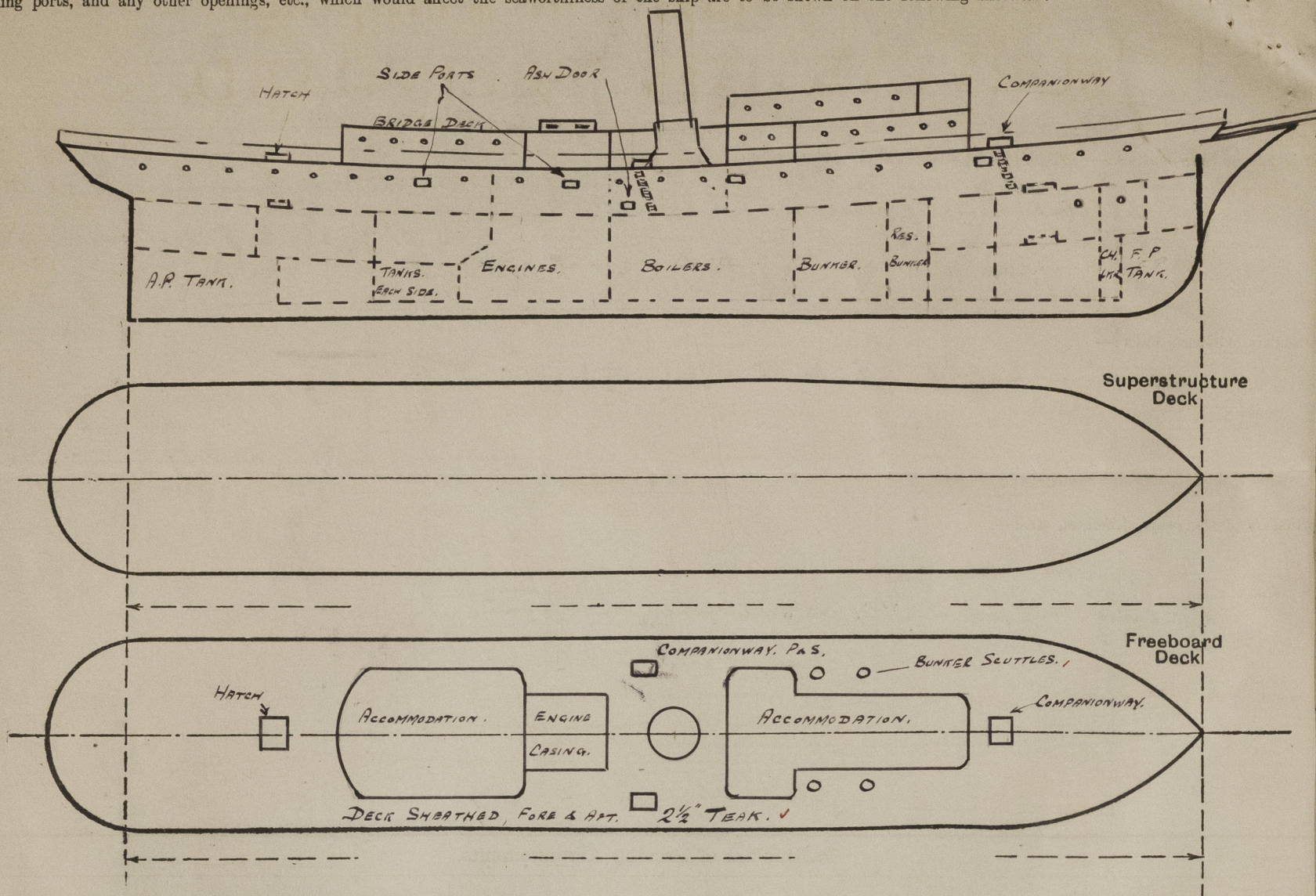
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well
Forward Well
State position of each freeing port ... After Well:— (F. and A. position and height above deck edge) Forward Well:— State whether 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	44	31	2 1/2 x 2 1/2 x 25 L	30" 4 21"	NONE	NONE	✓	7'-5"
Exposed Machinery Casings on Superstructure Decks
Machinery Casings within Superstructures not fitted with Class I Closing Appliances
Deckhouses on Flush Deck Ships	44	31	5 x 2 1/2 L	30"	BRACKETS TOP & BOTTOM	5'-3" x 2'-2"	10"	7'-5"

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

Poop Bulkhead	...
Raised Quarter Deck Bulkhead	...
Bridge, After Bulkhead	...
Bridge, Forward Bulkhead	...
Forecastle Bulkhead	...
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	no openings.
Exposed Machinery Casings on Superstructure Decks	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...
Deckhouses on Flush Deck Ships	1 7/8" hardwood doors. Can be manipulated from both sides.

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:—

The vessel was built as a steam yacht to class with Germanischer Lloyd and is now used as a Pilot Vessel for Port Phillip Bay, Victoria.
There are eight W.T. bulkheads all extending only to the second deck.
Access below the upper deck is by way of companionways, described herein, there being no access below through the hatches on upper deck.

The survey now held in dry dock does not include any part of Special Survey.

Winter freeboard

If draught were not limited by the position of the lowest side-scuttle it would be limited by the scantlings to 15'-10 1/4" in summer; i.e. to 15'-6 1/4" in winter, which corresponds to a winter freeboard of 8'-0 1/4".

Builder's name and yard number Bremer Vulkan, Vegesack Yard No 543

Names of sister ships

Owners Port Phillip Sea Pilots

Fee £ 8 : 0 : 0

Received by me



© 2021

Lloyd's Register
Foundation