

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having 1 Deck (steel)
Poop, Bridge and Forecastle.
(Type of Superstructures.)

Port of Survey **MELBOURNE**

Date of Survey 22 March, 25 April 1935.

Name of Surveyor B. P. Fielden

Particulars of Classification 100A.1
S. S. Mel No 3 1.32.

Ship's Name COLAC	Nationality and Port of Registry BRITISH. MELBOURNE	Official Number 128789	Gross Tonnage 3341	Date of Build 1920-2.
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Moulded Dimensions: Length 330.5 Breadth 47.75 Depth 26.1
Moulded displacement at moulded draught = 85 per cent. of moulded depth 7910 tons
Coefficient of fineness for use with Tables 791

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>26.08</u>	(a) Where D is greater than Table depth <u>22</u> (D-Table depth) R = $(26.12 - 22.04) 2.548$ = <u>+ 10.37</u>	Moulded Breadth (B) <u>47.75</u> Standard Round of Beam = $\frac{B \times 12}{50} = 11.46$ Ship's Round of Beam = <u>12</u> Difference <u>5.4</u> Restricted to Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = -0.07$
Stringer plate ... <u>4.2</u> ... <u>0.4</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	
Sheathing on exposed deck <u>N/A</u> $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	
Depth for Freeboard (D) = <u>26.12</u>		

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>30.0</u>	<u>30.0</u>	<u>7.3</u>		<u>30.0</u>	Standard Height of Superstructure <u>6.808</u>
" overhang ...						" " R.Q.D.
R.Q.D. enclosed ...						Deduction for complete superstructure <u>37.37</u>
" overhang ...						Percentage covered $\frac{S}{L} = .4857$
Bridge enclosed ...	<u>92.73</u>	<u>92.73</u>	<u>7.6</u>		<u>92.73</u>	" $\frac{S_1}{L} = .4785$
" overhang aft ...	<u>4.04</u>	<u>3.08</u>			<u>3.08</u>	" $\frac{E}{L} = .4785$
" overhang forward ...	<u>2.75</u>	<u>1.37</u>			<u>1.37</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Fore enclosed ...	<u>31.0</u>	<u>31.0</u>	<u>7.0</u>		<u>31.0</u>	Percentage from Table, Line B. <u>34.17</u> (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required)
Trunk aft ...						Deduction = <u>- 12.77</u>
" forward ...						
Tonnage opening aft ...						
" forward ...						
Total ...	<u>160.5</u>	<u>158.11</u>			<u>158.11</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	<u>43.08</u>	1	<u>43.08</u>	<u>67.75</u>	<u>43.08</u>	1	<u>43.08</u>
$\frac{1}{2}$ L from A.P. ...	<u>19.18</u>	4	<u>76.64</u>	<u>17.55</u>	<u>19.18</u>	4	<u>76.64</u>
$\frac{2}{3}$ L " ...	<u>4.74</u>	2	<u>9.48</u>	<u>0</u>	<u>4.74</u>	2	<u>9.48</u>
Amidships ...	<u>0</u>	4	<u>0</u>	<u>0</u>	<u>0</u>	4	<u>0</u>
$\frac{2}{3}$ L from F.P. ...	<u>9.48</u>	2	<u>18.96</u>	<u>0</u>	<u>0</u>	2	<u>0</u>
$\frac{1}{2}$ L " ...	<u>38.33</u>	4	<u>153.28</u>	<u>28.6</u>	<u>28.6</u>	4	<u>114.40</u>
F.P. ...	<u>86.13</u>	1	<u>86.13</u>	<u>102.25</u>	<u>102.25</u>	1	<u>102.25</u>
Total ...			<u>387.42</u>				<u>345.83</u>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} = \frac{387.42 - 345.83}{18} = \frac{41.59}{18} = +2.31$$

If limited on account of midship superstructure.

Mean actual sheer aft = <u>Excess</u>	Mean standard sheer aft
Mean actual sheer forward = <u>Deficient</u>	Mean standard sheer forward
Length of enclosed superstructure forward of amidships = $\frac{47.25}{330.5} = .143$	
" " aft of " = $\frac{34.17}{330.5} = .103$	
actual sheer aft	standard
67.75	43.08
17.55	19.18
4.74	4.74
0	0
28.6	28.6
102.25	102.25
Sum	Sum
118.75	114.71

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.

Depth to Freeboard Deck = <u>26.12</u> Ft.
Summer freeboard = <u>4.548</u>
Moulded draught (d) = <u>21.634</u>

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5.41

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = \frac{7910}{7738}$$

Tons per inch immersion at summer load water line

$$T = \frac{32.21}{40}$$

Deduction = $\frac{\Delta}{40T}$ inches

$$= \frac{7738}{40 \times 32.21} = 6"$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient 791 + 68 = 51.43

	+	-
Depth Correction ...	<u>10.37</u>	
Deduction for superstructures ...		<u>12.77</u>
Sheer correction ...	<u>1.17</u>	
Round of Beam correction ...		<u>0.07</u>
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	<u>11.54</u>	<u>12.84</u>

Summer Freeboard = 54.036

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

Tropical Fresh Water Line above Centre of Disc ...	<u>10"</u>	<u>4.510</u>
Fresh Water Line " " ...	<u>6"</u>	<u>6"</u>
Tropical Line " " ...	<u>4"</u>	<u>5.44</u>
Winter Line below " " ...	<u>4"</u>	<u>5.44</u>
Winter North Atlantic Line " " ...	<u>4"</u>	<u>5.44</u>

Tropical Fresh Water Freeboard ...	<u>3.66</u>	<u>3.74</u>
Fresh Water " " ...	<u>4.0</u>	<u>3.11</u>
Tropical " " ...	<u>4.0</u>	<u>4.12</u>
Winter " " ...	<u>4.0</u>	<u>4.10</u>
Winter North Atlantic " " ...	<u>4.0</u>	<u>4.10</u>

RECEIVED 26 APR 1937

RECEIVED 26 AUG 1935

Colac 13 MAY 1935

Particulars of fiddley, funnel and ventilator coamings:— On top of casing on Bridge Deck.
Engine Room skylight of strong steel construction.
Funnel casing carried full height.
Fiddley gratings fitted with steel storm covers permanently attached.
Machinery space ventilators well supported and passing through inside of casing.

None. /

Home

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

On Forecastle	1-15" dia	& 1-9" dia	with 36" coamings.
On Fore Well	2-15" "	"	36" "
On Bridge	1-16" dia	= 36" coaming	& 1-8" dia = 30" coaming
On After Well	4-15" dia	with 36" coamings	
On Poop	3-8" "	" 12" "	✓

all supplied with wood plugs & canvas covers.

Positions of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :-				Swan neck type :-	
On Forecastle.	1 - 4" dia	C.I.	Height 12"	Height to opening 4"	Air pipes on Freeboard Deck were protected by bulwarks. Wood plugs provided.
On Fore Well.	1 - 2" "	M.S.	" 3'-1"	" " " 3'-7"	
	2 - 3" "	M.S.	" 3'-9"	" " " 3'-4"	
On Bridge.	2 - 2" "	M.S.	" 1-8"	" " " 10"	
On After Well	2 - 2" "	M.S.	" 3'-9"	" " " 3'-4"	
On Prop.	1 - 4" "	C.I.	" 11"	" " " 3"	

Zone.

Particulars of Side Scuttles:— No side scuttles below freeboard deck. ✓
In Fore castle and Poop: 10" side scuttles with bronze frames and all fitted with cast iron hinged deadlights. ✓

Particulars of Guard Rails:—

On Forecastle :	two-bar rails	3'-0" high
" Bridge :	three-bar rails	3'-0" high
" Poop :	two-bar rails	3'-3" high
Bulwarks in wells		4'-0" in height.

Particulars of Gangways, Lifelines, etc.:— Crew berthed in poop.
Temporary lifelines rigged in after well, when required.

Suntaba provision made for rigging lifelines in the
bow & after wells.

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	87'-0"	4'-0"	3'-0" x 1'-6"	4	18.0 sq.ft.	17.4 sq.ft.
Forward Well	88'-0"	4'-0"	3'-0" x 1'-6"	4	18.0 sq.ft.	17.6 sq.ft.

State position of each freeing port } After Well:—
 (P. 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:—

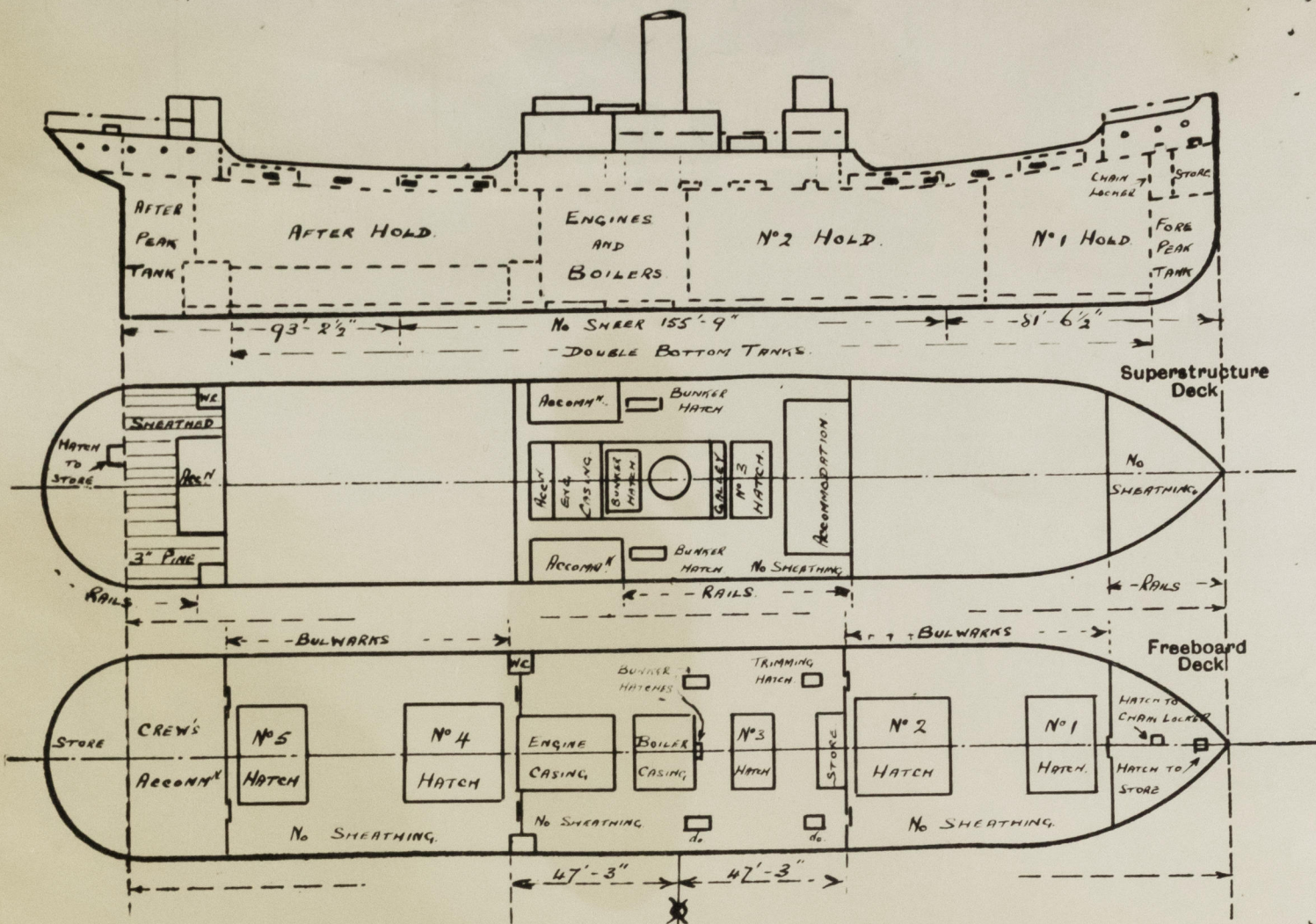
Additional area where sheer is less than standard.

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 ... ..	.42	.38	6 x 3½ x 30 L	2'-8"	None.	4'-10" x 2'-1"	18"	7'-3"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	.40	.34	3½ x 3½ x 40 L	2'-6"	Brackets at top	5'-0" x 3'-0"	18"	7'-6"
Bridge, Forward Bulkhead ... ..	.42	.38	8 x 3 x 54 L	2'-6"	Brackets top & bottom	4'-10" x 2'-9"	20"	7'-6"
Forecastle Bulkhead ... ..	.40	.34	3½ x 3½ x 40 L	3'-4"	Brackets at top	4'-6" x 3'-5"	18"	7'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks ... ..	.32	.32	3 x 3 x 32 L	3'-0"	None.	4'-8" x 2'-1"	18"	7'-4"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	.32	.32	1 HORIZONTAL 6 x 3½ x 50 L 2 VERTICAL WEBS 14" x 38 PLATE FRAISED 3" L'S 3 x 3 x 38.			4'-9" x 2'-3"	18"	7'-6"
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	...	...	Hardwood doors 1½" thick. Can be manipulated from both sides.	✓
Raised Quarter Deck Bulkhead	...	...
Bridge, After Bulkhead	...	...	2¾" Shifting boards in riveted channels, full height of opening.	✓
Bridge, Forward Bulkhead	...	...	Hinged W.T. steel doors 38" thick, secured by edge fastenings, manipulated from outside only.	✓
Forecastle Bulkhead	...	...	2¾" Shifting boards in riveted channels, full height of opening.	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...
Exposed Machinery Casings on Superstructure Decks	...	...	½" hardwood door (ENG. ROOM). 38" steel door (FOLEY). Can be manipulated from both sides.	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	38" hinged steel door (FOLEY). Can be manipulated from both sides.	✓
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 shown on the following sketches:—



DRAUGHT	20'-0"	21'-0"	22'-0"	23'-0"	24'-0"
DISPLACEMENT	7032	7417	7804	8193	8585
TONS / INCH	31.9	32.07	32.24	32.41	32.58

State any special features in the construction of the ship:—

Cargo vessel, usually trading between Australian ports.

The vessel has no sheer for 155'-9" amidships i.e. from 93'-2 1/2" forward of A.P. to 81'-6 1/2" abaft F.P. and straight sheer lines at ends.

Small hatches on Freeboard Deck.

In Forecastle. To fore peak 4'-8" x 4'-0", 3" angle coaming, 2 1/2" wood hatch, 2 1/4" bearing surface.

To Chain lockers 2'-0" x 3'-0", 2 1/2" "

In Bridge. Trimming hatch, P.S. 2'-4" x 2'-0", 9" B.A.

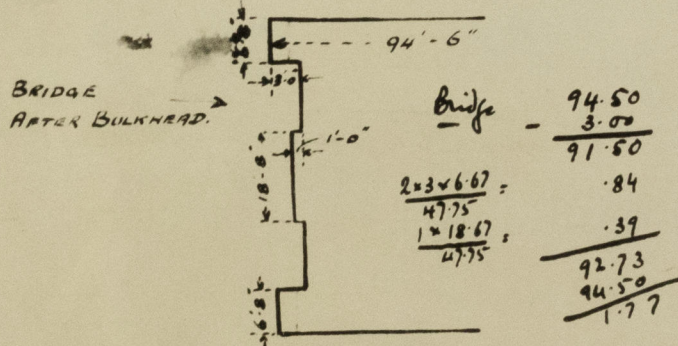
Bunker hatch P.S. Port 2'-10" x 2'-6", 8" B.A.

Starboard 3'-8" x 2'-6", 8" B.A.

Bunker hatch amidships. 2'-6" x 1'-8", 9" B.A.

At Poop. To store 3'-11" x 3'-7", 8" B.A.

All fitted with cleats, battens and tarpaulins.



The vessel has now been surveyed in conjunction with annual survey in dry dock and afloat but not including any part of Special Survey.