

23 MAR 1933

8243

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

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

having Pool, Bridge & Forecastle

(Type of Superstructures.)

Ship's Name "MAR CASPIO"	Nationality and Port of Registry <u>Spanish</u> <u>Bilbao</u>	Gross Tonnage <u>3080</u>	Date of Build <u>1919-12</u>
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Port of Survey Bilbao

Date of Survey 7th 8th March 1933

Name of Surveyor J. F. Penlee

Particulars of Classification 100 A1.
S.S. Blo. No. 3-132

Moulded Dimensions: Length 331 (100.88) Breadth 46.5 (13.57) Depth 25.6 (7.772)

Moulded displacement at moulded draught = 85 per cent. of moulded depth 7186 tons

Coefficient of fineness for use with Tables 761

<p>Depth for Freeboard (D)</p> <p>Moulded depth ... <u>7.772</u></p> <p>Stringer plate ... <u>(.46")</u> ... <u>.047</u></p> <p>Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \checkmark$</p> <p>Depth for Freeboard (D) = <u>7784</u></p>	<p>Depth correction</p> <p>(a) Where D is greater than Table depth (D-Table depth) R = <u>8.83 (7.754 - 6.725) 25.43</u> <u>= + 225%</u></p> <p>(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <u>✓</u></p> <p>If restricted by superstructures <u>✓</u></p>	<p>Round of Beam correction</p> <p>Moulded Breadth (B) <u>14.172 m.</u></p> <p>Standard Round of Beam = $\frac{B \times 12}{50} = \frac{283}{50} = 5.66$</p> <p>Ship's Round of Beam = <u>11.75" = 0.298 m.</u></p> <p>Difference <u>15% excess</u></p> <p>Restricted to</p> <p>Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right) = \frac{15}{4} \times .5136 = -2\%$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>10.06</u>	<u>10.06</u>	<u>2.286</u>		<u>10.06</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<u>29.87</u>	<u>29.87</u>	<u>2.286</u>		<u>29.87</u>
" overhang aft ...	<u>0.61</u>	<u>.46</u>			<u>.46</u>
" overhang forward					
F'cle enclosed ...	<u>8.682</u>	<u>8.68</u>	<u>2.286</u>		<u>8.68</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<u>49.22</u>	<u>49.07</u>			<u>49.07</u>

Standard Height of Superstructure 2078

" " R.Q.D. 950%

Deduction for complete superstructure 950%

Percentage covered $\frac{S}{L} = 48.79\%$

" $\frac{S_1}{L} = 48.64\%$

" $\frac{E}{L} = 48.64\%$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required))

Percentage from Table, Line B.
(corrected for absence of forecastle (if required)) 34.84%

Interpolation for bridge less than 2L (if required)

Deduction = 950 × .3484 = - 331%

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>1094</u>	<u>1</u>		<u>1094</u>	<u>1.295</u>	<u>1.295</u>	<u>1</u>		<u>1.295</u>
$\frac{1}{2}$ L from A.P. ...	<u>486</u>	<u>4</u>		<u>1944</u>	<u>0.558</u>	<u>.582</u>	<u>4</u>		<u>2.328</u>
$\frac{3}{8}$ L " ...	<u>121</u>	<u>2</u>		<u>242</u>	<u>0.127</u>	<u>.145</u>	<u>2</u>		<u>.290</u>
Amidships ...	<u>✓</u>	<u>4</u>		<u>✓</u>	<u>0</u>	<u>✓</u>	<u>4</u>		<u>✓</u>
$\frac{3}{8}$ L from F.P. ...	<u>243</u>	<u>2</u>		<u>486</u>	<u>0.304</u>	<u>.286</u>	<u>2</u>		<u>.592</u>
$\frac{1}{2}$ L " ...	<u>972</u>	<u>4</u>		<u>3888</u>	<u>1.104</u>	<u>1.144</u>	<u>4</u>		<u>4.576</u>
F.P. ...	<u>2189</u>	<u>1</u>		<u>2189</u>	<u>2.589</u>	<u>2.591</u>	<u>1</u>		<u>2.591</u>
Total ...	<u>9846</u>			<u>9843</u>					<u>11652</u>

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{1809}{18} \left(\frac{.75 - .8}{2L} \right) = \frac{1809}{18} (.75 - .2439) = -51\%$

If limited on account of midship superstructure. ✓

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.

Ft.

Depth to Freeboard Deck =

Summer freeboard =

Moulded draught (d) =

Deduction for Tropical freeboard and addition for

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

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>225</u>	
Deduction for superstructures ...		<u>331</u>
Sheer correction ...		<u>51</u>
Round of Beam correction ...		<u>2</u>
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	<u>225</u>	<u>384</u>

Summer Freeboard = 1221SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck: 47.75" = 1213%

Exactly freeboard as required being more favorable than the complete moulded draught.

Tropical Fresh Water Line above Centre of Disc ...	<u>10.5" = 266%</u>	Tropical Fresh Water Freeboard ...	<u>37.25" = 947%</u>
Fresh Water Line " " ...	<u>6" = 152%</u>	Fresh Water " " ...	<u>41.75" = 1061%</u>
Tropical Line " " ...	<u>4.5" = 114%</u>	Tropical " " ...	<u>43.25" = 1099%</u>
Winter Line below " " ...	<u>4.0" = 102%</u>	Winter " " ...	<u>51.75" = 1315%</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>✓</u>

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **28388**
(For London Office only.)

23 MAR 1933

W128

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poop, Bridge & Forecastle

Port of Survey

Bilbao

(Type of Superstructures.)

Date of Survey

7th 8th March 1933

Ship's Name

"MAR CASPIO"

Nationality and Port of Registry

Spanish

Bilbao

Gross Tonnage

3080

Date of Build

1919-12

Name of Surveyor

J. H. Penlee

Particulars of Classification

100 A1.

S.S. No. 3-132

Moulded Dimensions: Length 331' (100.88) Breadth 46' 5" (14.173) Depth 25' 6" (7.772)

Moulded displacement at moulded draught = 85 per cent. of moulded depth 7186 tons

Coefficient of fineness for use with Tables

761

Depth for Freeboard (D)

Moulded depth ... 7.772

Stringer plate ... (46") ... 0.117

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) = \checkmark$

Depth for Freeboard (D) = 7784

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R = 8.53 (7.772 - 6.725) 25.48

= + 225

(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) 14.172 m.

Standard Round of Beam = $\frac{B \times 12}{50} = 283 \%$

Ship's Round of Beam = 11.75' 0.298 m.

Difference 15% excess

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{15}{4} \times 0.5136 = -2 \%$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	10.06	10.06	2.286		10.06
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	29.87	29.87	2.286		29.87
" overhang aft ...	0.61	0.46			0.46
" overhang forward					
F'cle enclosed ...	8.682	8.68	2.286		8.68
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft					
" forward					
Total ...	49.22	49.07			49.07

Standard Height of Superstructure 20.78

R.Q.D.

Deduction for complete superstructure 950%

Percentage covered $\frac{S}{L} = 48.79 \%$ $\frac{S_1}{L} = 48.64 \%$ $\frac{E}{L} = 48.64 \%$

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 = $950 \times 0.3484 = -331 \%$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	1094	1		1094	1.295	1.295	1		1.295
$\frac{1}{2}$ L from A.P. ...	486	4		1944	0.558	0.558	4		2.328
$\frac{2}{3}$ L " ...	121	2		242	0.127	0.127	2		0.254
Amidships ...		4		0	0	0	4		0
$\frac{2}{3}$ L from F.P. ...	243	2		486	0.304	0.304	2		0.608
$\frac{1}{2}$ L " ...	972	4		3888	1.104	1.104	4		4.416
F.P. ...	2189	1		2189	2.589	2.589	1		2.589
Total ...	9846			9843					11652

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{1809}{18} \left(\frac{75-2439}{2 \times 14.172} \right) = -51 \%$

If limited on account of midship superstructure.

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 = Ft.

Summer freeboard =

Moulded draught (d) =

Deduction for Tropical freeboard and addition for

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

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $\frac{761+45}{1.36} = \frac{1441}{1.36}$

+

-

Depth Correction ... 225

Deduction for superstructures ... 331

Sheer correction ... 51

Round of Beam correction ... 2

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

225 384 - 159

Summer Freeboard = 1221

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

Tropical Fresh Water Line above Centre of Disc
Fresh Water Line " "
Tropical Line " "
Winter Line below " "
Winter North Atlantic Line " "

Tropical Fresh Water Freeboard
Fresh Water " "
Tropical " "
Winter " "
Winter North Atlantic " "

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1906 freeboards reassigned

Lloyd's Register Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N=1, 4, 5	N=2	N=3 (Cross Bulkhead)	N=4 (Side Bulkhead)	N=5 (Fore and Aft Bulkhead)	N=6 (Fore and Aft Bulkhead)	N=7 (Fore and Aft Bulkhead)	N=8 (Fore and Aft Bulkhead)	N=9 (Fore and Aft Bulkhead)
Dimensions of Hatchway	26'-6" x 18'-0"	26'-6" x 18'-0"	10'-2" x 18'-0"	12'-3" x 18'-0"	13'-3" x 3'-0"	24'-0" x 35'-0"	24'-0" x 21'-0"	29'-0" x 29'-0"	
COAMINGS									
Height above Deck	2'-6"	2'-10 1/2"	2'-6"	9"	2'-6"	2'-6"	2'-6"	16"	
Thickness	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	1/4"	
Stiffeners	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	7"x3" B.A.	
Brackets, Stays	2 each side 2 1/2"								
HATCH BEAMS									
Number	5	5	1	2	2	2	2	2	
Spacing	4'-5"	4'-5"	5'-1"	4'-0"	4'-0"	4'-0"	4'-0"	4'-0"	
Scantling and Sketch	Plat 14"x34"	Plat 14"x34"	Plat 12"x34"	Plat 15"x34"	Plat 15"x34"	Plat 15"x34"	Plat 15"x34"	Plat 15"x34"	
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	
FORE AND AFTERS									
Number									
Spacing									
Unsupported Lengths									
Scantling and Sketch									
Bearing Surface									
HATCH COVERS									
Material	W. Plm	W. Plm	W. Plm	W. Plm	W. Plm	W. Plm	W. Plm	W. Plm	
Thickness	3"	3"	3"	3"	3"	3"	3"	3"	
How fitted	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	F.A.	
Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	
Spacing of Cleats	24"	24"	24"	24"	24"	24"	24"	24"	
Number of Tarpaulins	3	3	1	2	2	2	2	2	

Particulars of fiddle, funnel and ventilator coamings:—
 Fiddle casing 4'-3" above bridge deck.
 Fiddle, funnel and ventilator coamings in good order.
 Fiddle openings closed by hinged steel covers, in good condition.
 Engine room skylight of steel, with hinged covers, in good order.

Particulars of Flush Bunker Scuttles:—
 None.

Particulars of Companionways:—
 Steel companionway on poop to crew quarters, 16" sill, steel door, good.
 Fastenings both sides.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 Forecastle: 1 @ 16" dia. x 36" x 38"; 1 @ 6 1/2" dia. x 36" x 38"; 1 @ 8" dia. x 18" x 25"; 2 grommet vents 20 1/2" high.
 Fore. Well: 3 @ 16" dia. x 36" x 38"; After Well: 4 @ 16" dia. x 36" x 38".
 Bridge Deck: 2 @ 16" dia. x 36" x 38"; 1 @ 6 1/2" dia. x 36" x 38"; 1 @ 7 1/2" dia. x 16" x 25"; 2 @ 4" x 12" x 2"; 2 grommet vents 20" high.
 Poop: 3 @ 8 1/2" dia. x 36" x 38"; 5 @ 6 1/2" dia. x 36" x 38"; 1 @ 7 1/2" dia. x 16" x 25"; 2 @ 4" x 12" x 2"; 2 grommet vents 20" high.
 Ventilator coamings good, closed by hard flaps & canvas covers.
 Grommet vents good, closed by hard flaps.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 Forecastle - 1; Fore & after Well - 2 each; Bridge deck - 6; Poop - 1.
 All air pipes fitted grommets in good order. Wood flaps provided.

Particulars of Gangway Cargo and Coaling Ports:—
 None.

Particulars of Scuppers and Sanitary Discharge Pipes:—
 All scuppers discharge above freeboard deck.
 3 sanitary discharge pipes below bridge deck, and 2 below freeboard deck in poop fitted with storm valves.

Particulars of Side Scuttles:—
 Forecastle - 5; Bridge 1; Poop 14 all strongly constructed and fitted with efficient dead lights.

Particulars of Guard Rails:—
 Forecastle: Part below & guard rail.
 Bridge: Bulkheads.
 Poop: Bulkheads.

Particulars of Gangways, Lifelines, etc.:—
 Provision made for rigging lifelines in forward & 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	85'-9"	3'-9"	36" x 18"	4	18 sq ft.	17 sq ft.
Forward Well	85'-9"	3'-9"	36" x 18"	4	18 sq ft.	17 sq ft.

State position of each freeing port:—
 (F. and A. position and height above deck edge) After Well: 4 from Bridge: 12' 8" 1/2; 51'; 71'-6". Height above deck 13".
 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	1/4"	3"	6" x 3 1/2" x 5"	30"	None	2 doors 4'-9" x 2'-0"	22"	7'-6"
Raised Quarter Deck Bulkhead	1/4"	3"	Plating Plated	3'-6"	None	2 openings 4'-6" x 2'-6"	22"	7'-6"
Bridge, After Bulkhead	1/4"	3"	8" B.A.	2'-6"	Bracket T.B.	2 doors 4'-3" x 2'-0"	24"	7'-6"
Bridge, Forward Bulkhead	1/4"	3"	3 1/2" x 3 1/2" x 36"	3'-6"	None	2 doors 4'-8" x 2'-0"	20"	7'-6"
Forecastle Bulkhead	1/4"	3"	3 1/2" x 3 1/2" x 36"	3'-6"	None	1 door 4'-6" x 3'-6"	20"	
Trunk, Aft	1/4"	3"						
Trunk, Forward	1/4"	3"						
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	1/4"	3"	3 1/2" x 3 1/2" x 36"	3'-0"	None	5 doors 4'-8" x 2'-0"	16"	Minimum 4'-3"
Exposed Machinery Casings on Superstructure Decks	1/4"	3"	3 1/2" x 3 1/2" x 36"	3'-0"		2 doors 4'-8" x 2'-0"	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	1/4"	3"	3 1/2" x 3 1/2" x 36"	3'-0"		1 door 3'-2" x 2'-0"	12"	
Deckhouses on Flush Deck Ships								

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

Poop Bulkhead: 2 steel doors to W.C.'s only. Bolts outside.

Raised Quarter Deck Bulkhead: Channel bars & 3" storm boards fore opening. Bolts steel plate steel opening.

Bridge, After Bulkhead: 2 weatherlight hinged steel doors secured by 8 clamps manipulated from both sides.

Bridge, Forward Bulkhead: 2 steel hinged doors to paint lockers only, padlocked outside.

Forecastle Bulkhead: 1 hinged steel door 3" thick to fore. space, manipulated both sides.

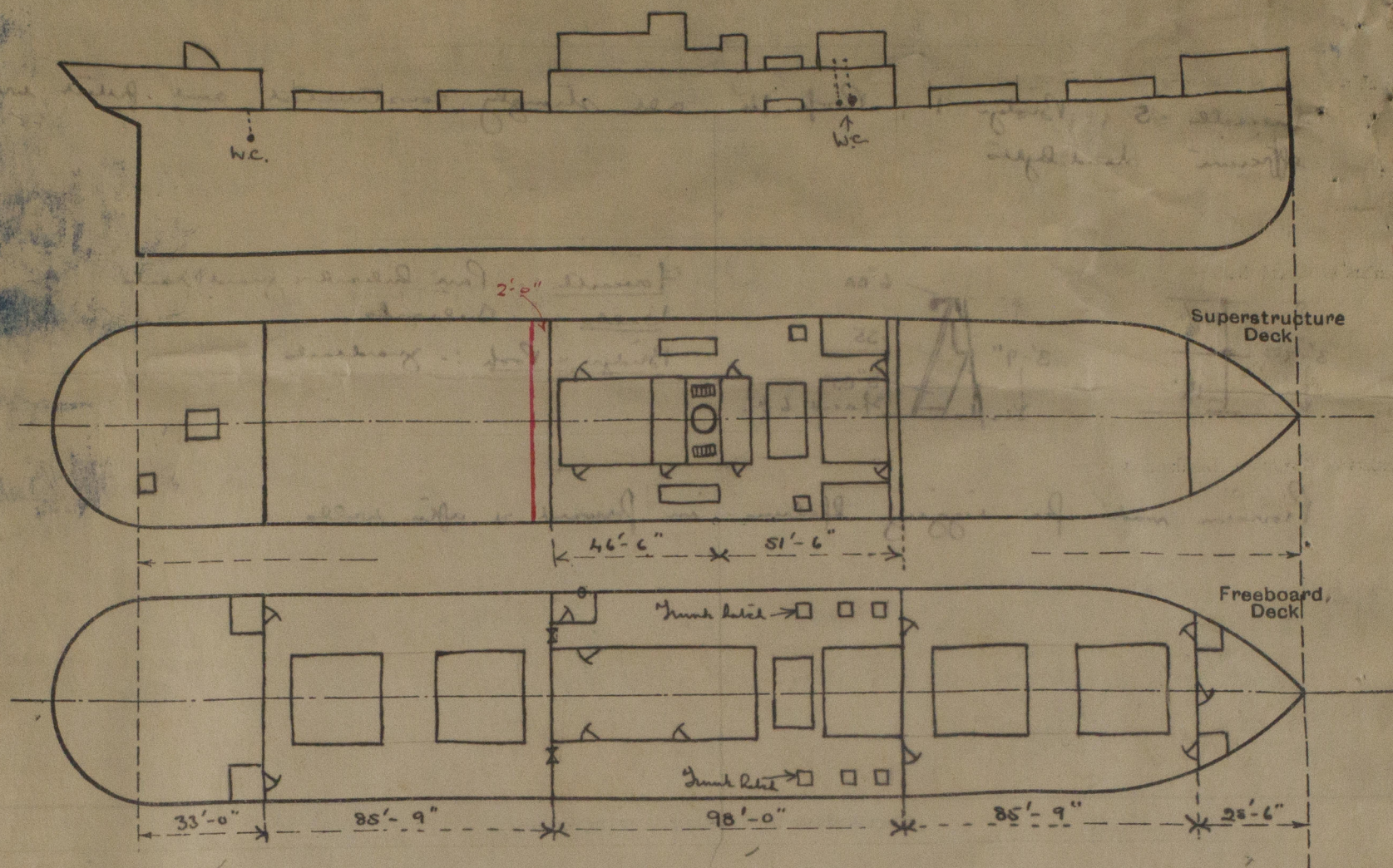
Exposed Machinery Casings on Freeboard or Raised Quarter Decks: 5 hinged steel doors, locks & bolts, manipulated both sides.

Exposed Machinery Casings on Superstructure Decks: 3 hinged steel doors, locks & bolts.

Machinery Casings within Superstructures not fitted with Class I Closing Appliances: 3 hinged steel doors, locks & bolts.

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:—

Vessel examined in drydock for condition survey

Builder's name and yard number *E. Finch & Co. (1916) St. Chelston*

Names of sister ships

Owners *La. Maritime del Mennon.*

Fee *£ 750:=-*

Received by me *16/3/33*