

15 JUN 1932

27564

Rpt. C.11.

Index. No. 14709  
(For London Office only.)Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.Dis Section  
No 224

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having COMBINED BRIDGE & FORECASTLE ON SHELTER DECK

(Type of Superstructures.)

Ship's Name <u>T.S. "MONTCALM."</u>	Nationality and Port of Registry <u>BRITISH LIVERPOOL</u>	Official Number <u>145903</u>	Gross Tonnage <u>16418</u>	Date of Build <u>1921-12mo.</u>
--	--	----------------------------------	-------------------------------	------------------------------------

Moulded Dimensions: Length 546' Breadth 70' Depth 34'-6" 43.25'  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 30100 tons  
Coefficient of fineness for use with Tables .750

Port of Survey SOUTHAMPTON  
Date of Survey 1<sup>st</sup> 3<sup>rd</sup> 6<sup>th</sup> JUNE 1932  
Name of Surveyor S. C. Dryden & Co. J. Anderson  
Particulars of Classification +100 A1  
SHELTER DK. WITH FREEBOARD.  
Form for all ships 12.2.30

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>43.25</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(43.31 - 36.40) 3 = +20.73</u>	Moulded Breadth (B) <u>70</u> Standard Round of Beam = $\frac{B \times 12}{50} = \frac{16.80}{50} = 16.80$ Ship's Round of Beam = <u>15" shell-pl.</u>
Stringer plate ... .. <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>6.91</u>	Difference <u>deficient = 1.8</u>
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) = .21 \left( \frac{54.33}{546} \right)$ <u>.02</u>	If restricted by superstructures	Restricted to
Depth for Freeboard (D) = <u>43.31</u>		Correction = $\frac{\text{Diff.}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.80}{4} \left( 1 - \frac{.8978}{1.022} \right) = \frac{.180}{4} \cdot .1022 = +.05$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed <u>AND BRIDGE ON SHELTER DECK</u> ... .. <u>490'</u>			<u>8 FT.</u>			Standard Height of Superstructure <u>7.5</u>
" overhang ... ..						" " R.Q.D. ... ..
R.Q.D. enclosed ... ..						Deduction for complete superstructure <u>42.0</u>
" overhang ... ..						Percentage covered $\frac{S}{L} = \frac{90.05}{90.05} = 1.00$
Bridge enclosed... .. <u>488.63</u>	<u>488.63</u>	<u>488.63</u>	<u>8.25 + .25</u>		<u>488.63</u>	" " $\frac{S_1}{L} = \frac{89.78}{89.78} = 1.00$
" overhang aft ... .. <u>3.04</u>	<u>1.52</u>	<u>1.52</u>	<u>Shell-pl.</u>		<u>1.52</u>	" " $\frac{E}{L} = \frac{89.78}{89.78} = 1.00$
" overhang forward ... ..						Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Forecastle enclosed ... ..						Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <u>87.42</u>
" overhang ... ..						Interpolation for bridge less than .2L (if required)
Trunk aft ... ..						Deduction = <u>42 x .8742 = -36.72</u>
" forward ... ..						
Tonnage opening aft ... ..						
" " forward ... ..						
Total ... .. <u>491.67</u>	<u>490.15</u>				<u>490.15</u>	

## NOTES FOR B.O.T. SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ... ..	<u>64.60</u>	1		<u>64.60</u>	<u>52"</u>	<u>51.13</u>	1		<u>51.13</u>	Mean actual sheer aft = <u>deficient</u> Mean standard sheer aft
$\frac{1}{8}$ L from A.P. ... ..	<u>28.75</u>	4		<u>115.00</u>	<u>25"</u>	<u>22.91</u>	4		<u>91.64</u>	Mean actual sheer forward = <u>deficient</u> Mean standard sheer forward
$\frac{3}{8}$ L " ... ..	<u>7.11</u>	2		<u>14.22</u>	<u>6"</u>	<u>5.72</u>	2		<u>11.44</u>	Length of enclosed superstructure forward of amidships = <u>.50</u>
Amidships ... ..		4			<u>0"</u>		4			" " aft of " = <u>.395</u>
$\frac{5}{8}$ L from F.P. ... ..	<u>14.21</u>	2		<u>28.42</u>	<u>12"</u>	<u>11.38</u>	2		<u>22.76</u>	
$\frac{7}{8}$ L " ... ..	<u>57.50</u>	4		<u>230.00</u>	<u>48"</u>	<u>45.52</u>	4		<u>182.08</u>	
F.P. ... ..	<u>129.20</u>	1		<u>129.20</u>	<u>122"</u>	<u>123.00</u>	1		<u>123.00</u>	
Total ... ..				<u>581.44</u>					<u>482.05</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{99.39}{18} \left( .75 - \frac{450.2}{482.05} \right) = \frac{99.39}{18} \cdot .1022 = +1.65$

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 = 43.46  
Summer freeboard = 15.52  
Moulded draught (d) = 27.94

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.98 = 7"

Addition for Winter North Atlantic Freeboard (if required =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 21924$   
Tons per inch immersion at summer load water line  
T = 46.8

Deduction =  $\frac{\Delta}{40T}$  inches  
= 7 1/4"

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{.750 + .68}{1.36} = \frac{1.43}{1.36}$$

	+	-
Depth Correction ... ..	<u>20.73</u>	
Deduction for superstructures ... ..		<u>36</u>
Sheer correction ... ..	<u>1.65</u>	
Round of Beam correction... ..	<u>.05</u>	
Correction for Thickness of Deck amidships ... ..	<u>1.76</u>	
Other corrections, scantlings, etc. to correspond to an approved winter moulded draught of 27'-4 1/2"	<u>77.52</u>	
Summer Freeboard	<u>101.71</u>	<u>36.7</u>

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

Tropical Fresh Water Line above Centre of Disc ... ..	<u>14 1/4"</u>
Fresh Water Line " " ... ..	<u>7 1/4"</u>
Tropical Line " " ... ..	<u>7"</u>
Winter Line below " " ... ..	<u>7"</u>
Winter North Atlantic Line " " ... ..	<u>7"</u>

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



### PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
		No 1 ON	No 2 ON	No 2 ON	No 3 ON	No 3 ON	No 4 ON	No 5 & 6	No 7	No 8	To Store
		3" DECK	3" DECK	SHALLOW DECK	3" DECK	SHALLOW DECK	A DECK	ON 3" DECK	ON 3" DECK	ON 3" DECK	3" DECK
Description of Hatchway		...	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway		15'9" x 16'0"	20'6" x 16'0"	20'6" x 16'0"	15'3" x 16'0"	15'3" x 16'0"	18'3" x 16'0"	19'9" x 16'0"	14'10" x 16'0"	15'2" x 16'0"	2'6" Sq.
COAMINGS	Height above Deck	30"	33"	15"	33"	15"	33"	33"	33"	33"	7'
	Thickness	4 1/4"	4 1/4"	3"	4 1/4"	3"	3"	4"	4"	4"	
	Sides	7'3" B.A.	7'3" B.A.		7'3" B.A.		7'3" B.A.	7'3" B.A.	7'3" B.A.	7'3" B.A.	
	Ends	BRACKETS	BRACKETS		BRACKETS		BRACKETS	BRACKETS	BRACKETS	BRACKETS	
HATCH BEAMS	Number	2	2	3	2	2	2	3	2	2	
	Spacing	3 1/2' x 3' A	3 1/2' x 3' A	3 1/2' x 3' A							
	Scantling and Sketch	10" x 7" ONE	20" x 17" ONE	10" x 7" ONE	ditto	ditto	ditto	ditto	ditto	ditto	
	Bearing Surface	6"	6"	6"	6"	6"	6"	6"	6"	6"	
FORE AND AFTERS	Number		FORM HALF								
	Spacing		FITTING WITH								
	Unsupported Lengths		STRONG								
	Scantling* and Sketch		BOLTED								
HATCH COVERS	Material	Winged	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	WOOD	Steel deck
	Thickness	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	Winged
	How fitted	Constructed	F+A	F+A	F+A	F+A	F+A	F+A	F+A	F+A	& Bolted
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	
Spacing of Cleats		21"	21"	21"	21"	21"	21"	21"	21"	21"	
Number of Tarpaulins		2	2	2	2	2	2	2	2	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? ☒

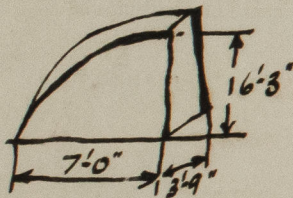
Are lashings provided in accordance with rule requirements? ☒

Particulars of fiddley, funnel and ventilator coamings :—

Stokehold gratings covered by strong steel hinged covers. ✓  
 Fiddley and funnel ventilators in efficient condition ✓  
 Engine Room skylights of steel strongly constructed ✓

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—



Strongly constructed steel companionway P & S on "B" Deck aft for access to "C" Deck  
Riveted to deck plating  $\frac{1}{2}$ " thick stiffeners 3' x 3" angles  
Box of steel 5'-2" x 3'-2" double doors hinged and operated from both sides  
Coaming 8" High.

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

Wood plugs & canvas covers provided.

ON "B" Disk - forward  
 3 - 1/2 in. P+S, 15" dia x 33" cranning  
 3 - " P+S, 12" " x 33" "  
 1 - 1/2 in. P+S, 9" " x 33" " filled with muslin top  
 1 - " P+S, 8" " x 33" "  
 1 - " P+S, 8" x 6" closed by H.T. Hinged flaps - 2' 6" to mouth

ON C DECK - AFT

2 - Yunk P, S, 12" dia x 33" craning.  
1 - Yunk P, S, 9" " x 33" "  
9 - C.I. yunk 8x6" closed by H.T. hinge flaps - 2'-6" to mouth.

pes in exposed positions on freeboard, raised quarter, or superstructure decks :—

3 ft high  
 with cap - 3'-3" high  
 P+S with cap - 3'-3" high  
 DB P+S with cap - 3'-3" high  
 P+S with stop cock  
 and closing provided

Air pipe No 3 D.B. P+S with stop cock relief valve } ON  
 " " No 4 D.B. P+S " " " " " " } A  
 Air pipe No 4 D.B. P+S with stop cock } DECK  
 Air pipe No 10 D.B. P+S with stop cock  
 Air pipe No 10 D.B. P+S with stop cock relief valve } ON  
 " " No 11 D.B. P+S " " " " " " } B  
 " " " " " " " " " " " " } DECK

Air spilling to 12 DB with cap - 3'-7" high } ON  
 Air spilling aft peak tank with cap - 3'-8" high } -C

NOTE:- ALL AIR PIPES 3½" DIA

ay Cargo and Coaling Ports :—

P+S on "A" Deck, 6'-0" x 7'-9" strongly constructed reinforced steel hinged H.T. door secured by 4 string locks.  
P+S "C" " 6'-0" x 9'-0" " " " " " " " " " 3 " "  
P+S "C" " 6'-0" x 7'-0" " " " " " " " " " 2 " "  
Coal P+S on "C" Deck 2'-6" Sq. strongly constructed steel door hinged and bolted.  
P+S on "D" Deck 3'-0" x 2'-0" strongly constructed reinforced steel hinged H.T. door secured by 2 string locks  
and in an oil tight compartment.  
P+S on "D" Deck 5'-3" x 4'-6" strongly constructed reinforced steel hinged H.T. door secured by 3 string locks



Montcalm

Particulars of Scuppers and Sanitary Discharge Pipes —

Scuppers - Hot. Iron pipes and gunmetal valves /  
Non return valves or geared valves.

Particulars of Side Scuttles:

Side scuttles on Shelter Deck portable blanks, except in way of galley where hinged deadlights are fitted. /  
Below Shelter Deck hinged deadlights fitted. /

Particulars of Guard Rails:—

Wood rail with 4 bars, 4 feet high. Stanchions 4'-6" apart. /

Particulars of Gangways, Lifelines, etc.:—

NONE

#### Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Well ... ..	ON C DECK 82'-0"	4'-0"	4'-5" x 1'-5"	2	12.5 sq ft	12 sq ft
Forward Well ... ..	ON B DECK 147'-0"	4'-0"	8'-0" x 5'-5" x 1'-7" 3'-4", 4'-0" x 3'-6" x 1'-4" 9'-6", 5'-6", 5'-3" x 1'-7"	2 - In Way of Bulwarks = 21.3 sq ft { 2 @ 3'-4" x 1'-4" = 7.2 sq ft 1 @ 3'-6" x 1'-4" = 4.8 sq ft 2 @ 5'-6" x 1'-7" = 18.9 sq ft { 2 @ 5'-6" x 1'-7" = 18.9 sq ft 1 @ 9'-6" x 1'-7" = 16.1 sq ft	21.3 sq ft 18.9 sq ft 50.1 sq ft	✓

State position of each freeing port ... ..  
(T and A. position and height above deck edge)

After Well:—  
Forward Well:—

SEE SKETCH OVERLEAF.

17" ABOVE DECK

whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

ONE BAR & HINGED SHUTTER.

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
Deck House ON "B" DECK FORWARD POOP BULKHEAD 3RD CLASS ENTRANCE	35"	35"	6" x 3" B.A.	24"	BRACKETS	4 @ 5'-6" x 4'-3"	13"	8 FT.
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead "B" DECK ...	3"	3"	NOT OBTAINABLE	24"		2 @ 5'-6" x 5'-4"	12"	8 FT.
Bridge, Forward Bulkhead "A" DECK ...	4"	4"	NOT OBTAINABLE	24"	NOT OBTAINABLE	NONE		8 FT.
BRIDGE AFT. Forecastle Bulkhead "C" DECK ...	3"	3"	NOT OBTAINABLE			NONE		8 FT.
Trunk, Aft CASING "C" DECK AFT.	3"	3"	3 1/2" x 3" A.	30"	BRACKETS	3 @ 6'-3" x 6'-6"	14"	8 FT.
Deck House - SMOKE ROOM Trunk, Forward "B" DECK AFT.	3"	3"				2 @ 5'-6" x 2'-6"	12"	8 FT.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...						2 @ 5'-6" x 4'-6"	13"	
Exposed Machinery Casings on Super-structure Decks ...						2 @ 5'-6" x 2'-6"	16"	8 FT.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...								
HOSPITAL "B" DECK AFT Deckhouse on Deck ...	3"	3"	NOT OBTAINABLE			{ 2 @ 5'-6" x 4'-6" 4 @ 5'-6" x 2'-6"	13" 16"	8 FT.

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

Deck House "B" DECK FORWARD 3RD CLASS ENTRANCE	4 double wood doors, operated from both sides.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead "B" DECK ...	2 double wood doors, operated from both sides.
CASING "C" DECK AFT Bridge, Forward Bulkhead ...	2 double wood doors, operated from both sides & covered by steel sliding door. 2 Steel doors operated from both sides.
Deck House - SMOKE ROOM "B" DECK AFT.	2 double wood doors, operated from both sides. 2 Steel doors operated from both sides (timber escape).
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Super-structure Decks ...	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	
HOSPITAL "B" DECK AFT Deckhouse on Deck ...	5 wood doors operated from both sides. One steel door operated from both sides.

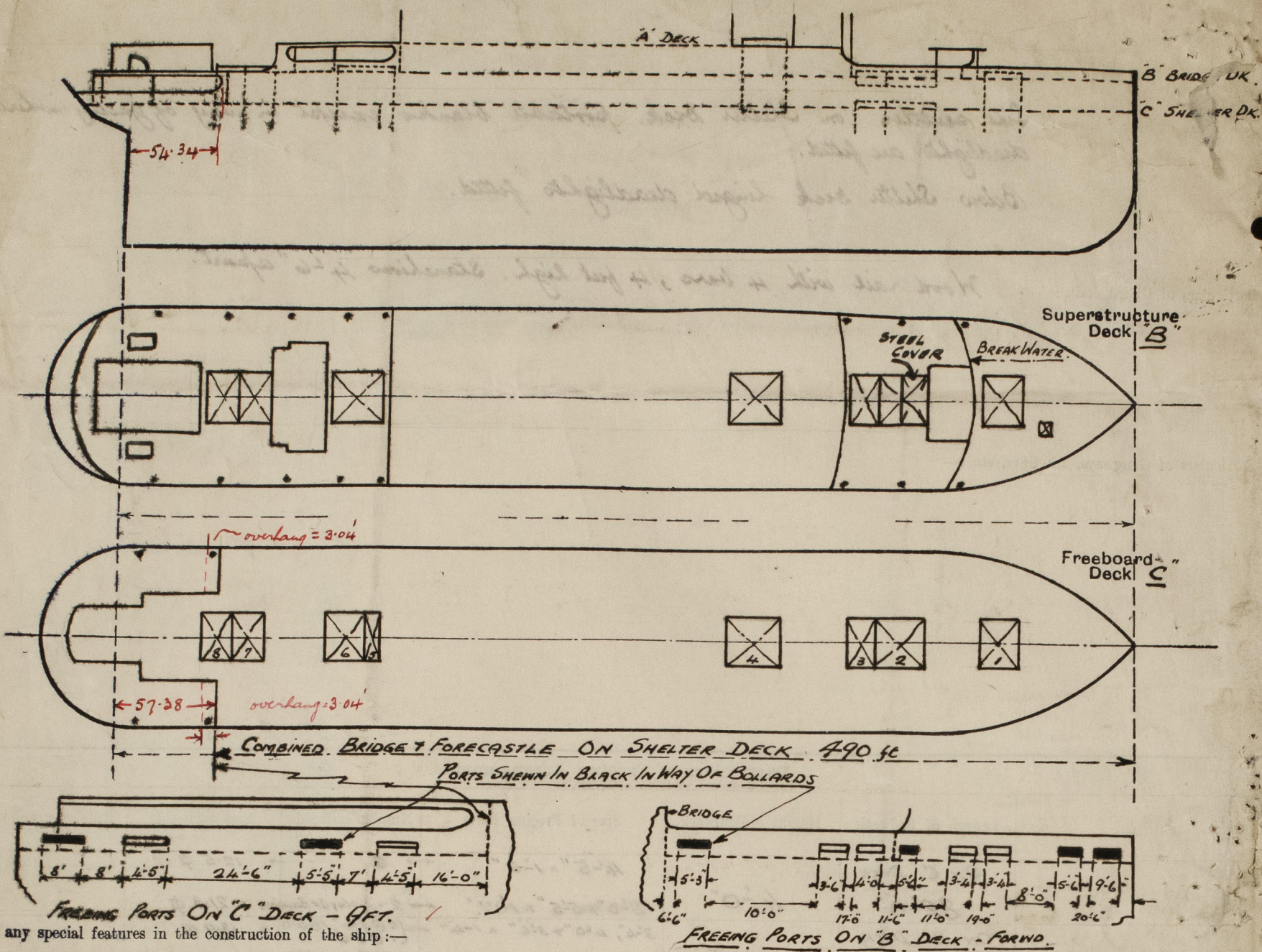


Lloyd's Register Foundation



Montcalm

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:—



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

Vessel in dry dock for docking survey  
Shore taken in dry dock.  
DUTY

Builder's name and yard number. J. BROWN & CO. LD. GLASGOW.

Names of sister ships.

Owners CANADIAN PACIFIC RAILWAY CO. - MANAGERS CANADIAN PACIFIC STEAMSHIPS LTD.

£ 17 : 0 : 0

Received by me

Coal P+S on  
P+S on "D" Deck 3'-  
in an oil tight way  
P+S on "D" Deck 5'-



© 2021

Lloyd's Register  
Foundation