

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name S.S. "FORT CATARAQUI"	Official Number 168356	Nationality and Port of Registry British London	Gross Tonnage 7130	Date of Build 1942 <i>10m</i>	Port of Survey QUEBEC, P. Q.
Moulded Dimensions: Length 417.35 416.00 Breadth 56.88' Depth 37.33' to upper deck <i>To centre of rudder stock</i> 28.58' to second deck					Surveyor's Signature <i>D. Nislop</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth 16690 16590 tons SW					Particulars of Classification + 100 A.1 "with freeboard" (contemplated)
Coefficient of fineness for use with Tables .778					

Depth for Freeboard (D).		Depth correction.		Round of Beam correction.	
Moulded depth	37.33	(a) Where D is greater than Table depth (D-Table depth) R=	68	Moulded Breadth (B)	56.88'
Stringer plate	.05	(37.38-27.73) 3.00 -	28.95'	Standard Round of Beam = $\frac{B \times 12}{50}$	= 13.65"
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	-	(b) Where D is less than Table depth (if allowed) (Table depth-D) R=	-	Ship's Round of Beam	= 14.00"
Depth for Freeboard (D) =	37.38	If restricted by superstructures	-	Difference	= .35"
				Restricted to	
				Correction = $\frac{Diff}{4} \times \left(1 - \frac{S_1}{L}\right)$	= $\frac{.35}{4} = -.089$

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S)	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				

Flush Deck

Standard Height of Superstructure **7.50'**
" " R.Q.D. -
Deduction for complete superstructure **42.00"**
Percentage covered $\frac{S}{L} =$
" " $\frac{S_1}{L} =$ } *Flush Deck*
" " $\frac{E}{L} =$
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.	51.60	1	51.60	54.63	54.63	1	54.63		
1/4L from A.P.	28.96	4	91.84	22.38	22.38	4	89.52		
1/4L "	5.68	2	11.36	4.88	4.88	2	9.76		
Amidships	-	4	-	-	-	4	-		
1/4L from F.P.	11.35	2	22.70	11.75	11.75	2	23.50		
1/4L "	45.92	4	183.68	47.13	47.13	4	188.52		
F.P.	103.20	1	103.20	104.75	104.75	1	104.75		
Total			464.38				470.68		

Mean actual sheer aft = *Deficient but > 75%*
Mean standard sheer aft =
Mean actual sheer forward = *Excess*
Mean standard sheer forward =
Length of enclosed superstructure forward of amidships =
" " aft of " = *Nil.*

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{5.30}{18} \times .75 = -.29"$
If limited on account of midship superstructure. *No. Flush Deck*

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	82.76
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient. $\frac{.68 + .778}{1.36} = 1.458$	88.73
Depth to Freeboard Deck = 37.38	$\Delta = 13798$	Depth Correction ... 28.95	
Summer freeboard = 10.53	Tons per inch immersion at summer load water line	Deduction for superstructures ...	
Moulded draught (d) = 26.83	T = 48.23	Sheer correction ...	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.71 = 6 3/4"	Deduction = $\frac{\Delta}{40T}$ inches = 7.15"	Round of Beam correction ...	
Addition for Winter North Atlantic Freeboard (if required) =	= 7 1/4"	Correction for Thickness of Deck amidships ...	
		Other corrections, scantlings, etc. and to correspond to approved summer moulded draft of 26'-10" (26'-10 1/8" actual).	
		Summer Freeboard = 126.50	

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

Tropical Fresh Water Line above Centre of Disc	14"	Tropical Fresh Water Freeboard	9'-4 1/2"
Fresh Water Line	7 1/4"	Fresh Water	9'-11 1/4"
Tropical Line	6 3/4"	Tropical	9'-11 3/4"
Winter Line below	6 3/4"	Winter	11'-1 1/4"
Winter-North Atlantic Line	-	Winter-North Atlantic	-

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS.										
On Freeboard Deck										
Description of Hatchway	No. 1	No. 2	No. 3	No. 4	No. 5	Cross	WingBkr.	ForePk	Steering	Saddle
	Cargo	Cargo	Cargo	Cargo	Cargo	Bunker	lp&ls	Store	Gear	Back
Dimensions of Hatchway	33'9"x20'	35'x20'	15x20	35x20	35x20	8x20	7'-2"x4'	2'-6"x3'	6 1-9x2'-0	4-5x18-6
COAMINGS	Height above Deck	30"	30"	30"	30"	30"	30"	30"	24"	24"
	Thickness	.44"	.44"	.44"	.44"	.44"	.44"	.44"	.40"	.40"
	Sides	.44"	.44"	.44"	.44"	.44"	.44"	.44"	.40"	.40"
	Ends	.44"	.44"	.44"	.44"	.44"	.44"	.44"	.40"	.40"
Stiffeners	7x3x38	9x3x44	7x3x38	9x3x44	8x3x44	7x3x38	None	None	None	None
Bulb angles	40flg.3"	40flg.3"	40flg.3"	40flg.3"	40flg.3"	40flg.3"	None	None	None	None
Brackets, Stays	None	None	None	None	None	None	None	None	None	None
HATCH BEAMS	Number	Five	Five	Two	Five	Five	One	None	None	None
	Spacing	5'-7 1/2"	5'-10"	5'-10" (Maximum)	5'-10"	5'-10"	4'-0"	-	-	-
	Scantling and Sketch							-	-	-
	All Mounting Angles	5"x3"x.38"	5"x3"x.38"	5"x3"x.38"	5"x3"x.38"	5"x3"x.38"	5"x3"x.38"	-	-	-
Bearing Surface	3"	3"	3"	3"	3"	3"	-	-	-	-
FORE AND AFTERS	Number	None	None	None	None	None	None	None	None	None
	Spacing	-	-	-	-	-	-	-	-	-
	Unsupported Lengths	-	-	-	-	-	-	-	-	-
	Scantling and Sketch	-	-	-	-	-	-	-	-	-
Bearing Surface	-	-	-	-	-	-	-	-	-	-
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.	W.P.
	Thickness	3"	3"	3"	3"	3"	3"	3"	3"	3"
	How fitted	Fore&aft	F&A.	F&A.	F&A.	F&A.	F&A.	Athwart	Athwart	Athwart
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3"	3"	3"
Spacing of Cleats	24"	24"	24"	24"	24"	24"	24"	24"	17"	21"
Number of Tarpaulins	Three	Three	Three	Three	Three	Three	Three	Two	Two	Three

*Are wood fore and afters steel shod at all bearing surfaces? No fore and afters.
 Are battens and wedges efficient and in good condition? Yes.
 Are tarpaulins in good condition and in accordance with rule requirements? Yes.
 Are lashings provided in accordance with rule requirements? Steel locking bars fitted to all hatchways.

Particulars of any special features :-

This vessel is of the closed shelter deck type, the tonnage opening abaft No. 5 hatchway being closed W.T. by riveted steel plate, efficiently supported by a transverse beam. ~~Under Clause I of Ministry of Shipping memorandum, M3387/41 (Circular Letter No. 1777) and in view of this vessel being in full compliance with the requirements stated therein, the emergency deeper loading regulations apply to this vessel.~~

Moulded W.L.	Full Draft	Full Displacement	Tons/Inch Immersion	Shell & Appendages.
21'	21'-2-1/8"	10,471 tons	46.40	67.0 tons
24'	24'-2-1/8"	12,165 "	47.38	73.0 "
27'	27'-2-1/8"	13,895 "	48.27	77.9 "

Endorsement at first survey and at surveys for renewal of Certificate :-

The fittings and appliances are in accordance with the particulars shown on this form (or as now modified) and are in good condition.

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