

WRECK SECTION  
Lloyd's Register of Shipping.  
SURVEYS FOR FREEBOARD.

24 OCT 1932

Index No. 32694  
(For London Office only.)

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Poop, Bridge &amp; Forecastle

Port of Survey Hongkong

(Type of Superstructures.)

Date of Survey Sept. 10, 12, 14, 17, 19 1932.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"CAPE ST GEORGE"	British London	160514	5112	1928

Name of Surveyor J. J. Morrison

Moulded Dimensions: Length 404.75' Breadth 53.30' Depth 29.00'  
Moulded displacement at moulded draught = 85 per cent. of moulded depth 11990 tons  
Coefficient of fineness for use with Tables 789

Particulars of Classification +100 A1

Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth	29.00		(a) Where D is greater than Table depth (D-Table depth) R =		Moulded Breadth (B)	53.30
Stringer plate	11 1/2 / 20	.03	(29.03 - 26.98) 3.00 = +6.15		Standard Round of Beam = $\frac{B \times 12}{50}$	12.79
Sheathing on exposed deck	none		(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Ship's Round of Beam	13 1/2
T $\left(\frac{L-S}{L}\right) =$					Difference	.71
Depth for Freeboard (D) =	29.03		If restricted by superstructures		Restricted to	
					Correction = $\frac{\text{Diff}^2}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.71^2}{4} \times .232 = .04$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	36.75	36.12	7.50	-	36.12
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed	241.25	241.25	7.50	-	241.25
" overhang aft					
" overhang forward					
Fore enclosed	33.50	33.50	7.50	-	33.50
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	311.50	310.87			310.87

Standard Height of Superstructure 7.5  
" " R.Q.D.  
Deduction for complete superstructure 42.0  
Percentage covered  $\frac{S}{L} = 76.96\%$   
" "  $\frac{S_1}{L} = 76.80\%$   
" "  $\frac{E}{L} = 76.80\%$   
Percentage from Table, Line A.  
(corrected for absence of forecastle (if required))  
Percentage from Table, Line B. 71.36%  
(corrected for absence of forecastle (if required))  
Interpolation for bridge less than 2L (if required)  
Deduction =  $42 \times 71.36 = -29.97$

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	50.47	1		50.47	63.00	63.00	1		63.00
1/2 L from A.P.	22.46	4		89.84	21.50	27.65	4		110.60
2/3 L	5.55	2		11.10	2.75	6.91	2		13.82
Amidships		4			0		4		
2/3 L from F.P.	11.11	2		22.22	16.00	13.72	2		27.44
1/2 L	44.92	4		179.68	49.25	54.90	4		219.60
F.P.	100.95	1		100.95	125.00	125.00	1		125.00
Total				454.26					559.46

Mean actual sheer aft = Excess  
Mean standard sheer aft

Mean actual sheer forward = Excess  
Mean standard sheer forward

Length of enclosed superstructure forward of amidships =  
" " aft of " =

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75-S}{2L} \right) = \frac{105.20}{18} \left( \frac{75-38.48}{2} \right) = -2.14$

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 = 29.03  
Summer freeboard = 4.40  
Moulded draught (d) = 24.63

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 6.15 = 6 1/4"

Addition for Winter North Atlantic Freeboard (if required) =

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 1012030$  available  
Tons per inch immersion at summer load water line

T = 4043.50

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

= 6.92

- 7"

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

Correction for coefficient

	+	-
Depth Correction	6.15	-
Deduction for superstructures	-	29.97
Sheer correction	-	2.14
Round of Beam correction	-	.04
Correction for Thickness of Deck amidships	-	-
Other corrections, scantlings, etc.	-	-
	6.15	32.15

Summer Freeboard = 52.82

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

Tropical Fresh Water Line above Centre of Disc	13 1/4"
Fresh Water Line	7"
Tropical Line	6 1/4"
Winter Line below	6 1/4"
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	4' 4 3/4"
Fresh Water	3' 3 1/2"
Tropical	3' 9 3/4"
Winter	3' 10 1/2"
Winter North Atlantic	4' 11"



**PARTICULARS OF PROTECTION TO OPENINGS, ETC.**

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												on Fore	on Poop
on Upper Deck												on Bridge Deck	
on Inside Bridge													
Description of Hatchway	N° 1 Cargo	N° 2 Cargo	N° 3 Cargo	Trimming (12 off)	Coaling (2 off)	N° 5 Cargo	N° 2 Cargo	N° 3 Cargo	N° 4 Cargo	Coaling (2 off)	To Store	To Store	
Dimensions of Hatchway	27'x19'	32'-6"x19'	27'-6"x19'	2'-6"x2'-3"	32'-6"x5'	32'-6"x19'	30'x19'	25'x19'	32'-6"x19'	20'x5'	4'x2'-0"	2'-6"x3'-0"	
COAMINGS	Height above Deck	30"	9"			30"	30"	30"	30"	30"	14"	18"	
	Thickness	.44	9x3x8/20 BA			.44	.44	.44	.44	.44	7/20	7/20	
	Stiffeners	7x3x8/20 BA	✓	✓	✓	9x3x9/20 BA	8x3x8/20 BA	7x3x8/20 BA	8x3x8/20 BA	✓	✓	✓	
	Brackets, Stays	2 1/2" dia	✓	✓	✓	2 1/2" dia	2 1/2" dia	2 1/2" dia	2 1/2" dia	✓	✓	✓	
HATCH BEAMS	Number	5	6	5	None	5	4	4	5	None	None	None	
	Spacing	4'-6"	4'-7 3/4"	4'-7"		5'-6"	6'-0"	5'-0"	5'-5"				
	Scantling and Sketch	Plate 15 3/4 x 35 angles 4 x 3 x 44	Plate 17 x 35 angles 4 x 3 x 44	Plate 15 3/4 x 35 angles 4 x 3 x 44		Plate 18 x 36 angles 4 x 3 x 44	Plate 15 x 33 angles 4 x 3 x 44	Plate 12 1/2 x 33 angles 4 x 3 x 44	Plate 13 3/4 x 33 angles 4 x 3 x 44				
	Bearing Surface	3 1/2"	3 1/2"	3 1/2"		3 1/2"	3 1/2"	3 1/2"	3 1/2"				
FORE AND AFTERS	Number	None	None	None	None	None	None	None	None	None	None	None	
	Spacing												
	Unsupported Lengths												
	Scantling* and Sketch												
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	Wood	
	Thickness	3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
	How fitted	F + A	F + A	F + A	F + A	Thwartship	F + A	F + A	F + A	F + A	Thwartship	F + A	
	Bearing Surface	3"	3"	3"	3"	3"	3"	3"	3"	3"	3 1/2"	3"	
Spacing of Cleats	24"	24"	24"	20"	24"	26"	24"	24"	23"	23"	17"	21"	
Number of Tarpaulins	3	1	1	1	1	3	3	3	3	3	3	3	
*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/>													
Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/>													
Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/>													
Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/>													
Coal Shoot Hatch on Casing Top - 5'-6" x 13'-6", coaming 6 x 2 1/2" x 7/20 angle, 2 1/2" wood covers, fitted F + A, hatch rest 3 1/2", cleats spaced 27", 3 Tarpaulins.													
Small hatches on V. Deck inside Fore. To F.P. 4' x 2'-10", coaming 9 x 3 x 8/20 BA, Wood hatch 2 1/2", cleats 19", Rests 3", one Tarpaulin. Hatch to Chain Locker 2' x 2', same at F.P. Hatch.													

Particulars of fiddle, funnel and ventilator coamings:— Stakehold gratings covered by strong steel hinged covers. Fiddle funnel & ventilator coamings in efficient condition. Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:— None

Particulars of Companionways:— None

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— 1 at 8" dia on Fore Deck to hold, coaming 18" x 5/20. 2 at 16" dia on Fore Well to hold, coamings 37" x 7 1/2/20. 2 at 16" dia + 2 at 18" dia on bridge deck to holds, coamings 30" x 7/20. 4 at 16" dia in aft well to holds, coamings 37" x 7 1/2/20. Tunnel escape on poop 36" dia, coaming 27" x 6/20. 3 at 12" dia on Poop to Crew's quarters, coamings 16" x 5/20. 3 at 6" dia on poop to Crew's quarters, coamings 18" x 5/20. 4-4" goosenecks on Poop to W.C. 12" high. 18" x 5/20. 1 at 9" dia on poop to crew's quarters, coaming 18" x 5/20. All ventilators & coamings in good condition & fitted with wood plugs & canvas covers.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:— 1-3" to after Peak on Poop, 18" high. 3-3" to Double bottom in after well, 36" high. 8-3" to double bottom on Bridge, 18" high. 1-3" to double bottom on Forecastle deck, 18" high. All air pipes made of galvanized W.I. & of goose neck type. Provided with wood plugs & canvas covers.

Particulars of Gangway Cargo and Coaling Ports:— None





Particulars of Scuppers and Sanitary Discharge Pipes — Scuppers & discharge pipes from poop & bridge spaces have gunmetal storm valves at ship's side & efficient traps or wood plugs at inner end.

On Poop  
To Store

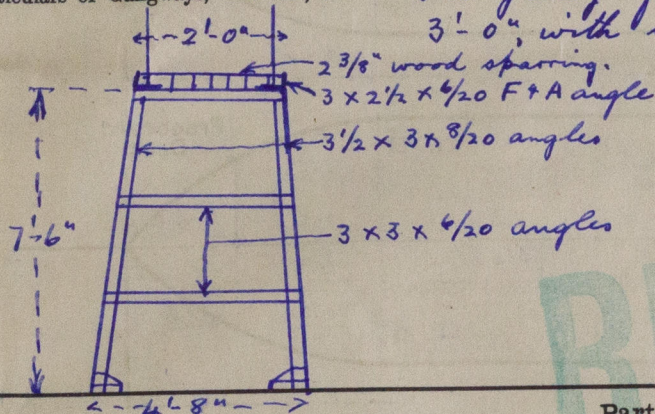
2-6 x 3-0  
18"  
7/20  
✓  
none

Particulars of Side Scuttles: None below freeboard deck.  
Side scuttles in Poop space have hinged deadlights.  
No scuttles in Forecastle or Bridge spaces.  
No deadlights for deck houses.

Particulars of Guard Rails:— on Poop, 2 rods, stanchions 3'-3" high spaced about 4'-6" apart.  
on Bridge 3 " " 3'-6" " " 5'-4" "  
on Fore. 2 " " 3'-3" " " 4'-0" "

none

Particulars of Gangways, Lifelines, etc.:— Gangway from Poop to bridge with 2 wire rails 3'-0" with stanchions spaced about 6'-9" apart.  
Supports as per sketch, spaced 14'-0" apart.  
and suitable provision made for rigging lifelines



#### 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 ...	55'-0"	3'-9"	2'-9" x 1'-6"	3	12.375 #	12.00 #
Forward Well ...	38'-6"	3'-10"	3'-6" x 1'-6"	2	10.50 #	10.35 #

State position of each freeing port ... { After Well:— From Poop front 8'-9", 25'-6" & 42'-9" } 12" above deck edge.  
(F. and A. position and height above deck edge) { Forward Well:— From Bridge front 7'-9" & 32'-0" }  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— one Horizontal bar.

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 ...	6/20	5/20	6 x 3 x 1/20 angles	33"	Brackets	5' x 2'-0"	18"	7'-6"
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	✓	5/20	Plating flanged 2 1/2"	40"	✓	4'-9" x 2'-0"	18"	7'-6"
Bridge, Forward Bulkhead ...	8/20	7/20	9 x 3 x 1/20 BA	30"	Brackets	5'-0" x 3'-3"	18"	7'-6"
Forecastle Bulkhead ...	✓	5/20	Plating flanged 2 1/2"	42"	✓	4'-10" x 3'-3"	18"	7'-6"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super-structure Decks ...	6/20	5/20	3 x 2 1/2 x 1/20 angles	36"	Brackets Top & Bottom	4'-10" x 2'-6"	18"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	7/20	6/20	3 x 2 1/2 x 1/20 angles	30"	Takes top & bottom angles	None	✓	7'-6"
Deckhouses on Flush Deck Ships ...	✓							

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

Poop Bulkhead ...	2-solid wood doors & weather boards 3'-8" high in riveted channels (See sketch) 2-hinged steel doors, all doors operated from both sides.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	Weather boards full height, in riveted channels
Bridge, Forward Bulkhead ...	Bolted plates, bolts passing through plate & bulkhead, 6" pitch.
Forecastle Bulkhead ...	Weather boards full height, in riveted channels.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks ...	Steel hinged doors to galley & storeroom, solid wood doors to engine room, operated from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	No openings
Deckhouses on Flush Deck Ships ...	✓



