

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

GLASGOW REPORT No 57872

Computation of Freeboard for <sup>M.V.</sup> ~~Steamer, Sailing Ship, Tanker~~

having Poop and Raised Dr. Stk connected and Forecastle Port of Survey Glasgow

(Type of Superstructures.)

Ship's Name "CAMEO" Nationality and Port of Registry British Glasgow Official Number 164109 Gross Tonnage 980 Date of Build 1937

A. J. Inglis Ltd. No 979P. 945.51

Moulded Dimensions: Length 199'-0" Breadth 32'-6" Depth 15'-0"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 1667 tons

Coefficient of fineness for use with Tables 708

Date of Survey While building

Name of Surveyor A. W. Paterson

Particulars of Classification +100 A1 (Contemplated.)

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	15.00	(a) Where D is greater than Table depth (D - Table depth) R = (15.04 - 13.27) × 1.531 = + 2.71		Moulded Breadth (B)	32.5'
Stringer plate	0.04	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50}$	7.80
Sheathing on exposed deck				Ship's Round of Beam	8"
$T \left( \frac{L-S}{L} \right) =$				Difference	.20
Depth for Freeboard (D) =	15.04	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left( 1 - \frac{S_1}{L} \right)$	$\frac{.20}{4} \times 2226 = -.01$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed	53.00	53.00	7.25	-	53.00
" overhang					
R.Q.D. enclosed	78.75	78.75	4.00	✓	78.75
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Fore enclosed	26.00	22.95	7.00	✓	22.95
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	157.75	154.70			154.70

Standard Height of Superstructure	6.0
" " R.Q.D.	3.660
Deduction for complete superstructure	25.9
Percentage covered $\frac{S}{L} =$	79.27
" " $\frac{S_1}{L} =$	77.74
" " $\frac{E}{L} =$	77.74
Percentage from Table, Line A.	72.52
(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 =	25.9 × 72.52 = - 18.78

## SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	29.90	1	29.90	51.25	59.90	1	59.90
$\frac{1}{8}$ L from A.P. ...	13.305	4	53.22	19.50	26.65	4	106.60
$\frac{2}{8}$ L " ...	3.29	2	6.58	4.50	6.59	2	13.18
Amidships ...	-	4	-	-	-	4	-
$\frac{2}{8}$ L from F.P. ...	6.58	2	13.16	6.50	6.50	2	13.00
$\frac{1}{8}$ L " ...	26.61	4	106.44	33.75	33.75	4	135.00
F.P. ...	59.80	1	59.80	79.00	79.00	1	79.00
Total ...			269.10				406.68

Mean actual sheer aft = Excess

Mean standard sheer aft = Excess

Mean actual sheer forward = Excess

Mean standard sheer forward = Excess

Length of enclosed superstructure forward of amidships = 7.1L

" " aft of " = 7.1L

Actual height of raised quarter deck = 4.00

Standard " " = 3.66

Difference = .34

= 4.08

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( \frac{75 - \frac{S}{2L}}{2L} \right) = \frac{137.58}{18} \left( \frac{75 - \frac{3963}{3537}}{2L} \right) = - 2.70$$

If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1½ ins. per 100 ft. ✓

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck	=	19.04
Summer freeboard	=	4.37
Moulded draught (d)	=	14.67

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = 3.67 = 3¾

Addition for Winter North Atlantic Freeboard (if required) = 5¾

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 1994$$

Tons per inch immersion at summer load water line

$$T = 13.26$$

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

$$= 3.76$$

$$= 3\frac{3}{4}$$

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

Correction for coefficient

$$\frac{708 + .68}{1.36} = \frac{1.388}{1.36}$$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

	+	-
Depth Correction	2.71	-
Deduction for superstructures	-	18.78
Sheer correction	-	2.70
Round of Beam correction	-	0.01
Correction for Thickness of Deck amidships	48.00	-
Other corrections, scantlings, etc.	-	-
50.71	21.49	+29.22
Summer Freeboard = 52.62		

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 " "

15 JAN 1937



# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

		HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS	
Description of Hatchway		No. 1. Upper Dk	No. 2. Raised Dk
Dimensions of Hatchway		38'-1 1/2" x 20' clear	60'-7 1/2" x 21' clear
COAMINGS	Height above Deck	3'-6"	3'-2 1/2"
	Thickness	4 1/4"	4 1/4"
	Sides	4 1/4"	4 1/4"
	Ends	4 1/4"	4 1/4"
COAMINGS	Stiffeners	8" B.A.	8" B.A.
	Brackets, Stays	5 bulk plate stays with intermediate angle stiffeners	8 bulk plate stays with intermediate angle stiffeners (2 stays in each case at fore end)
HATCH BEAMS	Number	6	10
	Spacing	5'-7 1/2" x 4'-4 1/2"	5'-7 1/2" x 4'-4 1/2"
	Scantling and Sketch	19 1/4" x 37" angles 4 x 3 x 4 1/2	16" x 36" angles 4 x 3 x 4 1/2
	Bearing Surface	T & B patent sliding beams.	
FORE AND AFTERS	Number	✓	✓
	Spacing		
	Unsupported Lengths		
	Scantling* and Sketch		
HATCH COVERS	Material	Baltic pine	Baltic pine
	Thickness	2 1/2"	2 1/2"
	How fitted	Fore & aft	Fore & aft
	Bearing Surface	4"	4"
Spacing of Cleats		24"	24"
Number of Tarpaulins		2	2
<p>*Are wood fore and afters steel shod at all bearing surfaces? <i>yes</i></p> <p>Are battens and wedges efficient and in good condition? <i>yes</i></p> <p>Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i></p> <p>Are lashings provided in accordance with rule requirements? <i>yes. Fittings for special lashings</i></p>			

Particulars of fiddle, funnel and ventilator coamings:—

*No gratings on casing top.  
Funnel & ventilator coamings in efficient condition.  
Engine room skylight of steel strongly constructed.*

Particulars of Flush Bunker Scuttles:—

*None.*

Particulars of Companionways:—

*Four steel companionways on poop deck of substantial construction. For position see sketch on page 4.  
Size 5'-0" x 2'-6" x 6'-0" high / 1 1/2" hinged wood doors workable both sides. Sill 18."*

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

<u>Forecastle Dk.</u>	1 Vent	6" diam	- coaming	36" x 30	to store
	1 "	17" "	"	36" x 38	" hold ✓
<u>Raised Dk.</u>	2 vents	18" "	"	36" x 40	" "
<u>Poop Dk.</u>	2 "	6" "	"	30" x 30	" crew's quarters.
	2 "	21" "	"	33" x 40	" engine room.

*Ventilators constructed in accordance with rule requirements. Wood plugs & canvas covers supplied.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

<u>Forecastle Dk.</u>	1 air pipe	22 1/2" high x 4" diam	from fore peak.
<u>Upper Dk.</u>	2 air pipes	36" " x 3 1/2" "	" D.B. ✓
<u>Raised Dk.</u>	2 " "	30" " x 3 1/2" "	" D.B.
<u>Poop Dk.</u>	2 " "	18" " x 3" "	" aft peak.

*Canvas covers supplied*

Particulars of Gangway Cargo and Coaling Ports:—

*None.*



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Particulars of Scuppers and Sanitary Discharge Pipes:—

Sanitary discharges led overboard & fitted with y.m. storm valves at ship's side. Scuppers from poop space led overboard & fitted with y.m. storm valves at ship's side & brass screwed covers (non-detachable) at inboard ends.

Particulars of Side Scuttles:—

All side scuttles fitted with hinged deadlights.

Particulars of Guard Rails:—

Forecastle deck:— Rails & stanchions. Two rods. Stanchions 3'-1" high spaced 5'-0" apart.

Well & R. L. Sk.:— Steel bulwarks efficiently supported.

Poop deck:— Rails & stanchions. Two rods. Stanchions 3'-0" high spaced 4'-0" apart.

Particulars of Gangways, Lifelines, etc.:—

None.

Provision made for lifelines from Poop to Forecastle

Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
R. L. Sk.						
After Well ...	78.75	3'-6"	3'-0" x 1'-4" x 3'-9" x 1'-6"	3 1	11.97 $\frac{1}{2}$ 5.625 $\frac{1}{2}$	15.75 $\frac{1}{2}$
Forward Well ...	41.25	3'-9"	3'-0" x 1'-3 1/2"	3	11.61 $\frac{1}{2}$	10.625 $\frac{1}{2}$
State position of each freeing port (F. and A. position and height above deck edge) { R. L. Sk. from poop - 9" - 21'-6" - 33'-6" - 61'-0" sill 8" After Well:— Forward Well:— from R. L. Sk. - 13" - 16'-8" - 27'-4" sill 12"						
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Hinged shutters ✓						
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 ...	.30		6 x 3 x 34 L + web etc.	30"	Lugged top & bottom	none	-	✓
Raised Quarter Deck Bulkhead ...	.34		5 x 3 x 34 + web etc.	28 1/2"	none	none	-	✓
Bridge, After Bulkhead ...	✓							
Bridge, Forward Bulkhead ...	✓							
Forecastle Bulkhead ...	✓							
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Super-structure Decks ...	.30		3 x 2 1/2 x 30	30"	bracketed at top	companionway 4'-6" x 2'-0" at aft end on starboard side	18"	2'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓							
Deckhouses on Flush Deck Ships ...	✓							

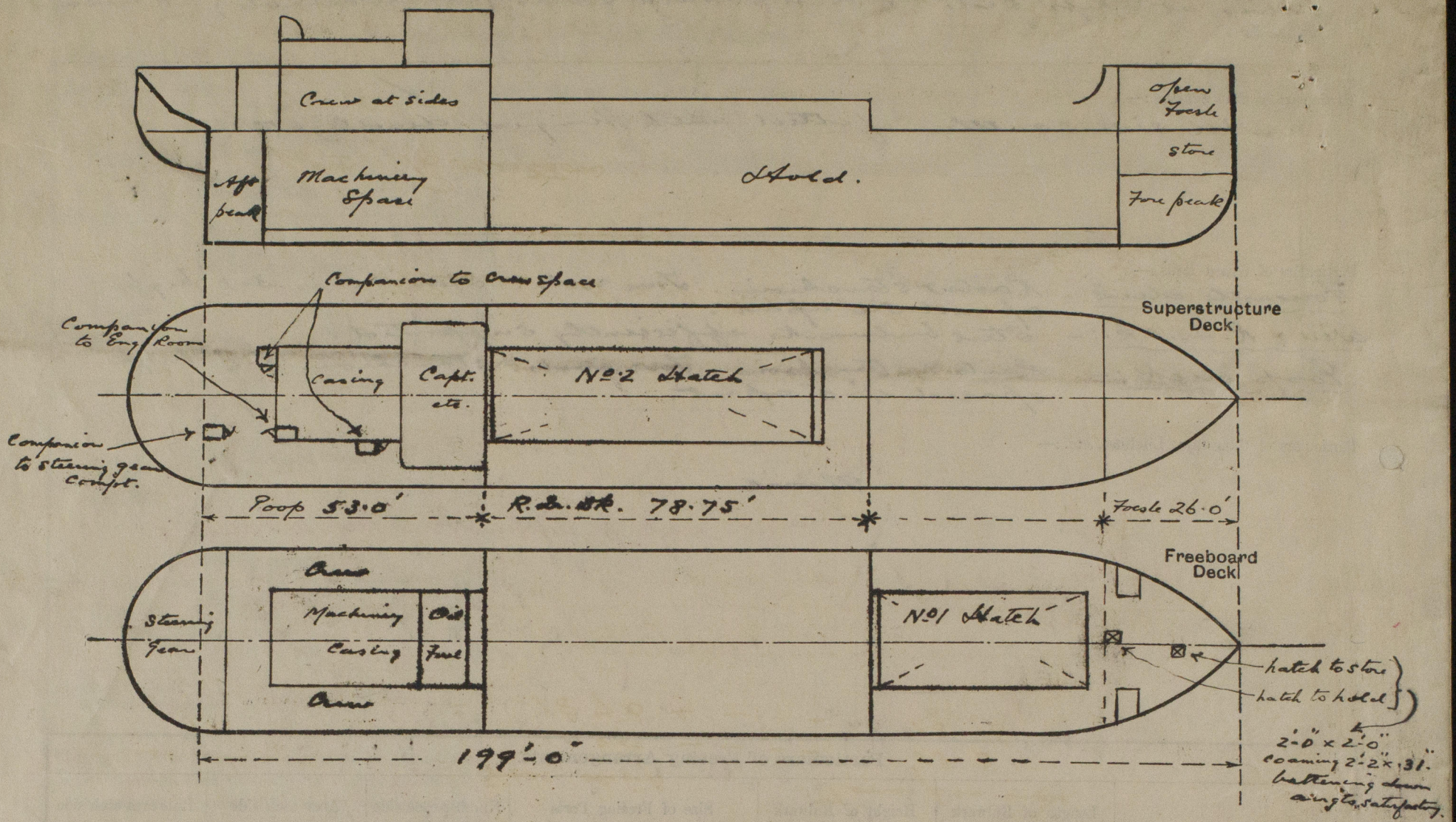
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ...	<del>none</del> No Springs
Raised Quarter Deck Bulkhead ...	<del>none</del> No Springs
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Super-structure Decks ...	Steel companions aft end of casing with 1 1/2" wood cross (hinged) workable both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓
Deckhouses on Flush Deck Ships ...	✓



Canes

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:—

New Vessel.

Approved Midship Section & Profile plans forwarded for reference — also forward request form herewith.

Full draft.	Full ship.	Tons per inch.
15'	2035	13.3
14'	1870	13.16

$$\text{Virtual stress at poop tank} = 9 + 4.08 = 13.08$$

$$A.P. = \frac{(99.5)^2}{46.5} \times 13.08 = 59.9$$

Builder's name and yard number

Messrs. R. & J. Inglis Limited.

No. 979 P.

Names of sister ships

✓

(Somewhat similar arrangement to "SAPPHIRE" No. 76d Rpt No. 56035)

Owners

Wm. Robertson

Fee £

8 0 0

Received by me



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