

Rpt. C.11.

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

GLASGOW REPORT No. 52419

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey	Grangemouth
having <u>Raised Quarter Deck and open Forecastle.</u>					Date of Survey	28 th April 1932
(Type of Superstructures.)					Name of Surveyor	J. Anderson
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build		
BOWLING	British Glasgow	129523	493	1910-10		
Moulded Dimensions: Length 199'-0" Breadth 30'-0" Depth 13'-7"					Particulars of Classification	
Moulded displacement at moulded draught = 85 per cent. of moulded depth					+100 A.1.	
Coefficient of fineness for use with Tables 784						
Depth for Freeboard (D)			Depth correction		Round of Beam correction	
Moulded depth ... 13'-58"			(a) Where D is greater than Table depth (D-Table depth) R = (13.61 - 13.27) = 0.34		Moulded Breadth (B) 30'-0"	
Stringer plate ... 38"			+0.52		Standard Round of Beam = $\frac{B \times 12}{50} = 7.2$	
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 = $7\frac{1}{2}$	
Depth for Freeboard (D) = 13'-61"			If restricted by superstructures		Difference 3	
					Restricted to	
					Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3}{4} (.2510) = -.02$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
* Poop enclosed ...	✓				
" overhang ...	✓				
R.Q.D. enclosed ...	121.34	121.34	4.0		121.34
" overhang ...	✓				
Bridge enclosed ...	✓				
" overhang aft ...	✓				
" overhang forward ...	✓				
Forecastle enclosed OPEN ...	35.50	27.70	7.0		27.70
" overhang ...	✓				
Trunk aft ...	✓				
" forward ...	✓				
St. Tonnage opening aft ...	✓				
(F) " " forward ...	✓				
S Total ...	156.84	149.04			149.04

Standard Height of Superstructure	6.0
" " R.Q.D.	3.66
Deduction for complete superstructure	25.9
Percentage covered $\frac{S}{L} =$	7880
" " $\frac{S_1}{L} =$	7490
" " $\frac{E}{L} =$	7490
Percentage from Table, Line A.	6903
(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 =	6903 + 25.9 = 17.88

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	29.90	1		29.90	31.00	31.00	1		31.00
1/4 L from A.P. ...	13.30	4		53.20	14.00	14.22	4		56.88
1/2 L " ...	3.30	2		6.60	3.50	3.55	2		7.10
Amidships ...		4			.00		4		
3/4 L from F.P. ...	6.60	2		13.20	6.75	6.71	2		13.42
1/4 L " ...	26.61	4		106.44	27.00	26.85	4		107.40
F.P. ...	59.80	1		59.80	61.00	61.00	1		61.00
Total ...				269.14					287.06

Mean actual sheer aft = Even
Mean standard sheer aft =Mean actual sheer forward = Even
Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = .11 L

" " aft of " = .50 L

Actual height of R.Q.D. = 4'-0"

Standard

3'-7.92"

Even

4.08"

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{17.92(75-3940)}{18} = -.35$

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.Ft.
Depth to Freeboard Deck = 17.61
Summer freeboard = 4.58
Moulded draught (d) = 13.03

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.26 3/4

Addition for Winter North Atlantic Freeboard (if required) = 2'

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

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

3 1/4

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{784-.68}{1.36} = \frac{1.461}{1.76}$

Depth Correction ... 52

Deduction for superstructures ... 17.88

Sheer correction ... 35

Round of Beam correction ... 02

Correction for Thickness of Deck amidships ... 48.00

Other corrections, scantlings, etc. ...

48.52 18.25 + 30.27

Summer Freeboard = 54.95

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

Tropical Fresh Water Line above Centre of Disc ...	6 1/2
Fresh Water Line " " ...	3 1/4
Tropical Line " " ...	3 1/4
Winter Line below " " ...	3 1/4
Winter North Atlantic Line " " ...	5 1/4

Tropical Fresh Water Freeboard ...	4'-0 1/2"
Fresh Water " " ...	4'-3 3/4"
Tropical " " ...	4'-3 3/4"
Winter " " ...	4'-10 1/4"
Winter North Atlantic " " ...	5'-7 1/4"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

Particulars of fiddle, funnel and ventilator coamings:—



Particulars of Flush Bunker Scuttles:—

None.

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

Raised Quarter " 9" 36" / " 1/4" " " " " /
 Vents constructed in accordance with rule requirements and fitted with wood plugs & canvas covers.

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

" On foreboard deck, in open for stern,					D.B.		No plugs or covers
" " " "	two	-	3½"	, 36"	"		
Raised Quarter decks	two	-	3½"	, 30"	"		Covers
" " " "	one	-	2"	, 30"	A.P.	Screwed CAP.	An pipe provided with wood plugs

Particulars of Gangway Cargo and Coaling Ports:—

None.

freeboard deck fitted with

Particulars of Scuppers and Sanitary Discharge Pipes —

One sanitary discharge forward, below freeboard deck fitted with non-return valve.

One " " aft " " " " " " " " " " " "

Particulars of Side Scuttles:
In lower forecastle, bottom of light 22" below freeboard deck, fitted with deadlights. ✓
In midships and aft deckhouses not fitted with deadlights. ✓
all scuttles of substantial construction. ✓

On fore-castle deck 3'-0" high, 4'-3" apart, 2 rods. ✓
Bulwarks in upper deck well of steel, 4'-3" high strongly constructed. ✓
" " Raised Quarter deck " " 3'-3" " " " ✓

Lifelines fitted on starboard side of fore well, in stanchions spaced 9 ft. set in sockets fitted to hatch side coaming.

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	121'-4" /	3'-3" /	{ 3'-0" x 1'-6" / 2'-6" x 1'-6" /	{ 4 2 }	25 1/2 ϕ /	24.3 ϕ /
Forward Well	44'-0" / 44'-2" /	4'-3" /	2'-6" x 1'-6" /	3	11.25 ϕ /	10.7 ϕ / 11.00 ϕ /
<p>State position of each freeing port { After Well:— FROM FORE END OF R.Q.D. TO FORE SIDE OF F.P. 6'-6" 8'-9" 6'-6" HEIGHT ABOVE DECK 4'-19'-8", 31'-0", 44'-9", 60'-9", 73'-8", 96'-8"</p> <p>(F. and A. position and height above deck edge) { Forward Well:— FROM AFT END OF WELL TO AFT END OF F.P. 9", 12'-3", & 23'-6" " " " 14"</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—</p>						
<p>Additional area where sheer is less than standard.</p> <p>BALANCED PLATE DOORS. Except those marked * which have 2 hor. rods</p>						

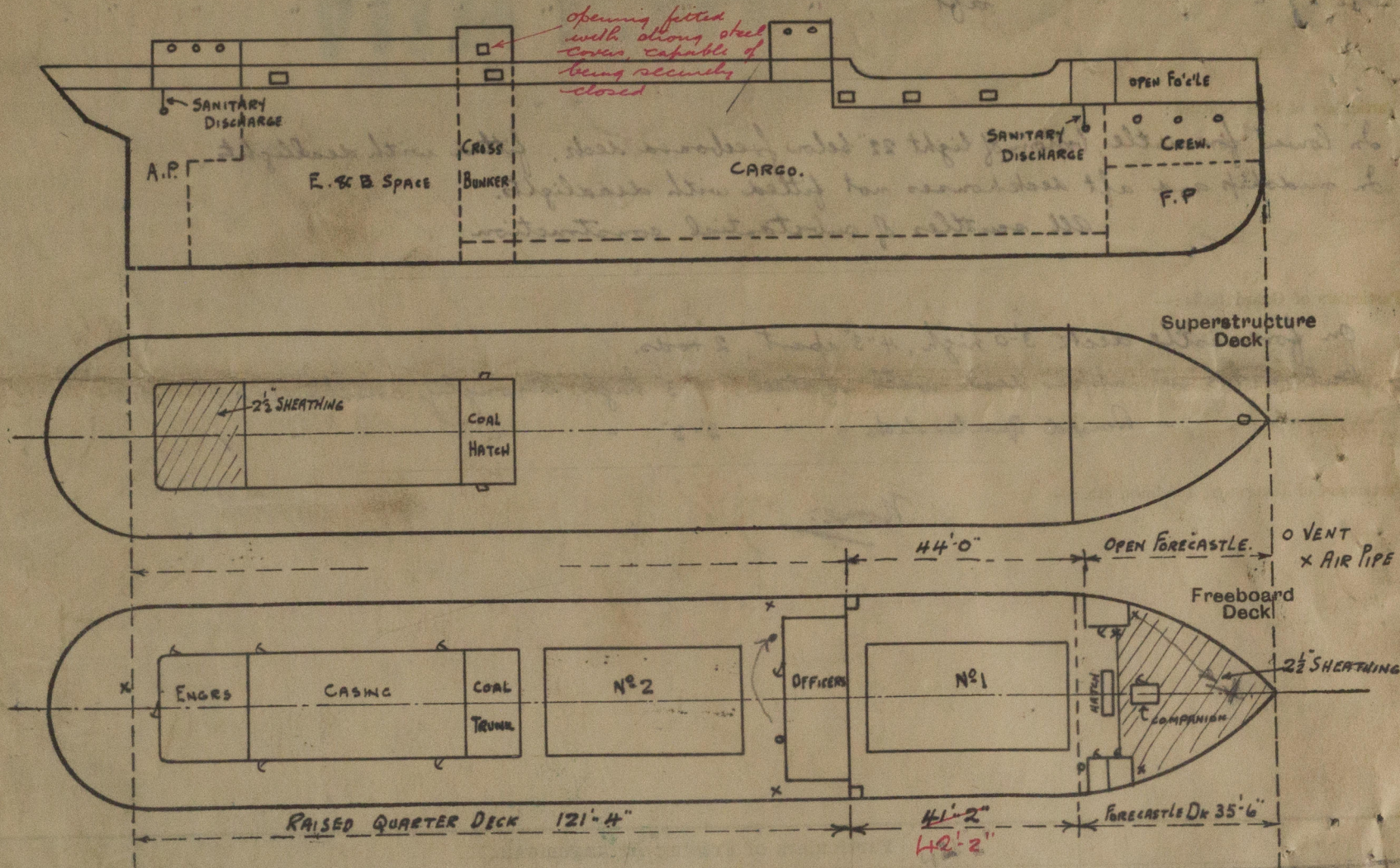
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	✓							
Raised Quarter Deck Bulkhead ...	30 ✓	30 ✓	4" x 3" x 130 ✓	30" ✓	DEEP BRKTS ON ALTERNATE STIFFS. ✓	✓	✓	4'-0" ✓
Bridge, After Bulkhead <i>HOUSE</i> ...						5'-3" x 2'-0" ✓	18" ✓	8'-0" ✓
Bridge, Forward Bulkhead	✓							
Forecastle Bulkhead	✓							
Trunk, Aft	✓							
Trunk, Forward	✓							
Exposed Machinery Casings on Freeboard Raised Quarter Decks ...	30 ✓	25 ✓	2 1/2" x 2 1/2" = 1/4" ✓	30" ✓	BRKTS AT TOP ✓	4'-2" x 2'-6" ✓	22" ✓	6'-6" ✓
Exposed Machinery Casings on Superstructure Decks	✓							
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	✓
Raised Quarter Deck Bulkhead ...	None No openings ✓
Bridge, After Bulkhead <i>HOUSE</i> ...	Hinged wood door with lock, operated both sides. ✓
Bridge, Forward Bulkhead	✓
Forecastle Bulkhead	✓
Exposed Machinery Casings on Free Raised Quarter Decks ...	Hinged steel doors with locks, operated both sides. ✓
Exposed Machinery Casings on Superstructure Decks	✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓

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Bawling

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:—



Forecastle	35.5	
L	19.9	19.9
10	15.6	7.8

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

Trade:— Coasting

Timber load line not desired.

Special survey will be completed May 1932.

This survey has been held in dry dock.

J. Anderson

OM 17

Builder's name and yard number. J. Fullerton & Co. Paisley. Yard No. 216.

Names of sister ships

Owners G. Gibson & Co. Ltd. Leith.

Fee £ 6 : 16 : 0

Received by me

By/ps. 14/6