

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

12 MAY 1932

GLASGOW REPORT No. **52468**

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

combined Poop and Bridge and Forecastle.Port of Survey **Glasgow.**Date of Survey **10th May 1932.**Name of Surveyor **James R. Clark.**Particulars of Classification **100 A1.**

Ship's Name

HEBRIDES.

(Type of Superstructures.)

Nationality and Port of Registry
British.
Glasgow.Official Number
108735Gross Tonnage
585.Date of Build
1898
5 mo.

Moulded Dimensions: Length **180.0** Breadth **28.0** Depth **13' 10"**
 Moulded displacement at moulded draught = 85 per cent. of moulded depth
 Coefficient of fineness for use with Tables **634** **68 min. for Tables**

Depth for Freeboard (D)

Moulded depth ... **13' 10"**
 Stringer plate **FBD. D^K AMIDSHIPS = 40"** **03**
 Sheathing on exposed deck **3"**
 $T \left(\frac{L-S}{L} \right) = .25 \times 12.22$ **03**
 Depth for Freeboard (D) = **13.89**

Depth correction

- (a) Where D is greater than Table depth
 (D - Table depth) R = $(13.89 - 12.00) 1.385 = +12.62$
 (b) Where D is less than Table depth (if allowed)
 (Table depth - D) R =

If restricted by superstructures

Round of Beam correction

Moulded Breadth (B) **28.0**
 Standard Round of Beam = $\frac{B \times 12}{50} = 6.72$
 Ship's Round of Beam = **8"**
 Difference **Excess** **1.28**
 Restricted to
 Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.28}{4} \times .3779 = -.12$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	50.0	50.00	6.96	-	50.00
" overhang ...	2.50	1.25			1.25
R.Q.D. enclosed ...					
" overhang ...	60.0				
Bridge enclosed OPEN FORD	70.0	30.00	6.96	-	30.00
" overhang aft ... SEE SKETCH					
" overhang forward ...	45.5	16.97	6.96	-	16.97
Forecastle enclosed SEE SKETCH		13.75			13.75
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	158.0				
" forward ...	165.5				
Total ...		111.97			111.97

Standard Height of Superstructure **6.00**" " R.Q.D. **24.00**

Deduction for complete superstructure **24.00**
 Percentage covered $\frac{S}{L} = 87.78$
 " " $\frac{S_1}{L} = 62.21$
 " " $\frac{E}{L} = 62.21$

Percentage from Table, Line A: **49.76**
(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 = **24.00 x 49.76 = -11.94**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	28.00	1		28.00	19.0"	19.50	19.50	1	19.50
$\frac{1}{4}$ L from A.P. ...	12.46	4		49.84	5.0"	6.32	6.32	4	25.28
$\frac{2}{4}$ L " ...	3.08	2		6.16	1.0"	1.58	1.58	2	3.16
Amidships ...		4			0			4	
$\frac{2}{4}$ L from F.P. ...	6.16	2		12.32	7"	6.02	6.02	2	12.04
$\frac{1}{4}$ L " ...	24.92	4		99.68	24"	24.09	24.09	4	96.36
F.P. ...	56.00	1		56.00	50"	50.50	50.50	1	50.50
Total ...				252.00					206.84

Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{45.16}{18} = 2.51$

If limited on account of midship superstructure.

Mean actual sheer aft = **Deficient**
Mean standard sheer aftMean actual sheer forward = **Deficient, 94.3% Standard**
Mean standard sheer forwardLength of enclosed superstructure forward of amidships = **NIL**" " aft of " = **NIL**

Sheers forward

S	A	S	A
6.16	6.02	3	18.48
24.92	24.09	3	72.27
56.00	50.50	1	50.50
			149.24
			140.83

$\frac{149.24}{140.83} = 94.3\%$

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 = **14.11**
 Summer freeboard = **1.14**
 Moulded draught (d) = **12.97**

Deduction for Tropical freeboard and addition for
 Winter freeboard = $\frac{d}{4}$ inches = **3.24 $\frac{3}{4}$ "**

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

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 1221$

Tons per inch immersion at summer load water line

 $T = 9.5$ Deduction = $\frac{\Delta}{40T}$ inches**= 3.21 $\frac{3}{4}$ "**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	2.62	-
Deduction for superstructures ...	-	11.94
Sheer correction ...	-78	-
Round of Beam correction ...	-	12
Correction for Thickness of Deck amidships ...	2.64	-
Other corrections, scantlings, etc. ...	-	-
	6.04	12.06
Summer Freeboard =	13.78	

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line

	Wood, Steel, Deck:-
Tropical Fresh Water Line above Centre of Disc ...	6 $\frac{1}{2}$ "
Fresh Water Line " " ...	3 $\frac{1}{4}$ "
Tropical Line " " ...	3 $\frac{1}{4}$ "
Winter Line below " " ...	3 $\frac{1}{4}$ "
Winter North Atlantic Line " " ...	5 $\frac{1}{4}$ "
Tropical Fresh Water Freeboard ...	1' - 1 $\frac{3}{4}$ "
Fresh Water " " ...	0' - 7 $\frac{1}{4}$ "
Tropical " " ...	0' - 10 $\frac{1}{2}$ "
Winter " " ...	0' - 10 $\frac{1}{2}$ "
Winter North Atlantic " " ...	1' - 7"

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
			ON FREEBOARD DECK (C.W.)			ON BRIDGE DECK				
Description of Hatchway			1	2	CATTLEWALK	2	COAL HATCH			
Dimensions of Hatchway			9' x 7'	5' 3" x 9' 10"	3' 6" x 10'	5' 6" x 8' 6"	1' 10" x 10'			
COAMINGS	{	Height above Deck	14"	15"	40"	15 1/2"	13"			
		{	Thickness	4 1/4"	40"	36"	38"	38"		
			Sides	HINGED	PORT	36"	38"	38"		
			Ends	4 1/4"	40"	36"	38"	38"		
			Stiffeners	FOR CATTLEWALK	HINGED	36"	38"	38"		
Brackets, Stays										
HATCH BEAMS	{	Number			NONE					
		Spacing								
		Scantling and Sketch								
Bearing Surface										
FORE AND AFTERS	{	Number			ONE		Plate			
		Spacing			5-0		support			
		Unsupported Lengths			3-5		at			
		Scantling* and Sketch			6" x 6"	NONE	Cl.			
		Bearing Surface			2"		line.			
HATCH COVERS	{	Material	WP	WP	WP	OPEN	WP			
		Thickness	3 1/2"	2 3/8"	2 3/8"	HATCH	2 1/4"			
		How fitted	THWART	F + A	THWART	NO COVERS	THWART			
		Bearing Surface	1 1/2"	2 1/2"	1 1/2"	OR	1 1/2"			
Spacing of Cleats		24"	24"	NO 2 tarps	BATTENING	BATTENING				
Number of Tarpaulins		2	2	BATTENING	ARRGTS.	ARRGTS.				
				ARRGTS.	ARRGTS.	2 tarps.				
*Are wood fore and afters steel shod at all bearing surfaces? ONE F + A ONLY, IN CATTLEWALK - NO SHOES - steel shod.										
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? Ring bolts fitted at No 1 and No 2 on Ybd. dk. only.										

Particulars of fiddle, funnel and ventilator coamings:—

~~Port~~ bolted steel covers supplied for covering stokehold gratings, permanently attached.
 Fiddle, Funnel and Ventilator in efficient condition.
 Engine Room skylight of Teak, strongly constructed.

Particulars of Flush Bunker Scuttles:—

Two scuttles on Ybd. deck, inside Bridge. covers of cast steel,
~~no screw or bayonet joint, and no chain attachment.~~ fitted with permanent attachment.

Particulars of Companionways:—

ON FCLE; leading to open Telle. space, 5' x 3' x 5' high steel companion with wood sliding top, capable of being secured from both sides.
 1" thick panelled wood doors, 12" sill, no means of securing doors.
 ON BRIDGE DECK AFT. 4' 6" x 2' 0" opening for stairway to Bridge space. No companion or covers.
 ON POOP; leading to poop space, formed by steel house on poop deck; 1" panelled sliding door (P. 51), 14" sill, door operated both sides.
 ON FBD DECK inside Telle, leading to brow space; formed by wood trunk in Telle, 1" panelled wood door, operated both sides, 5" sill.

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

ON POOP: 2-12" dia. vents to Holds (marked V on sketch), intended above
 Roof Ho. by sheet steel trunk containing fan, stayed to Roof House.
 9-3" dia. S.N. vents, 6" to lip, mouth closed by gauze, to Poop.
 ON FCLE: 2-11 1/2" dia. vents, coaming 24" x 30" to Holds. {with brass lips for
 1-8" " " " 14" x 30" " FCLE.
 1-10" " " " 14" x 30" " Crew space closing coaming.
 ON FCLE: 2-3" dia. S.N. vents 6" to lip, no covers, to Telle.
 1-1" dia. S.N. vent from Steerage.
 FBD DECK inside Telle. marked V on sketch: 1-6" x 35" vent, 20" to lip and
 1-4" dia. S.N. vent, 6" to lip to Crew space. No covers.
 Vents constructed in accordance with Rules, for covers all
 Efficient means of closing all ventilation coamings provided.

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

One W. I. Air Pipe on Telle, 3" dia, 6" to lip to F.P. No covers. with efficient means of closing.
 " " " " Poop 3" " 6" " " " A.P. mouth closed by gauze.
 No snifting holes.

Particulars of Gangway Cargo and Coaling Ports:—

Gangway door abreast No 1 Hatch: 9' 0" broad, full height.
 One Weather-tight cargo door in Bridge side abreast No 2 Hatch
 7' 4" x 5' 4".
 Doors efficiently constructed.



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Particulars of Scuppers and Sanitary Discharge Pipes:— Scuppers from Steerage in T.C., on Tbd. & discharge thro. storm valves on ships side. The remaining scuppers on Tbd. deck discharge thro. bends on ships side. The W.C. and W.B. discharges from poop in poop discharge thro. storm valves on ships side. The W.B. discharges from staterooms in poop are all led thro. a common pipe (P+S) and thence discharge thro. bends on the ships side. The W.C. discharges (P) in T.C. discharge thro. bends on ships side, but it is stated that flaps are fitted outside on shell plating. The sink dis. (S) in T.C., and the galley dis. amidships discharge thro. bends on ships side. Side scuttles to brow space below Tbd. deck fitted with hinged deadlights: 9" dia. lights 12" x centre below Tbd. dk. Side scuttles in poop, bridge and T.C., (Officers and Steerage) have no deadlights fitted. All scuttles of substantial construction.

Particulars of Guard Rails:— On poop and bridge:— 3'6" High, 4 rods and wood rail, stanchions spaced 4'0" On T.C.: 3'6" " 5 " " " 4'0" On Tbd. & in Well Ford., full height bulwark, efficiently constructed and supported.

Particulars of Gangways, Lifelines, etc.:— Gangway (P+S) over Well Ford. 2 3/4" planks, no supports. 2 rods and 2 wires and stanchions on each side of each gangway.

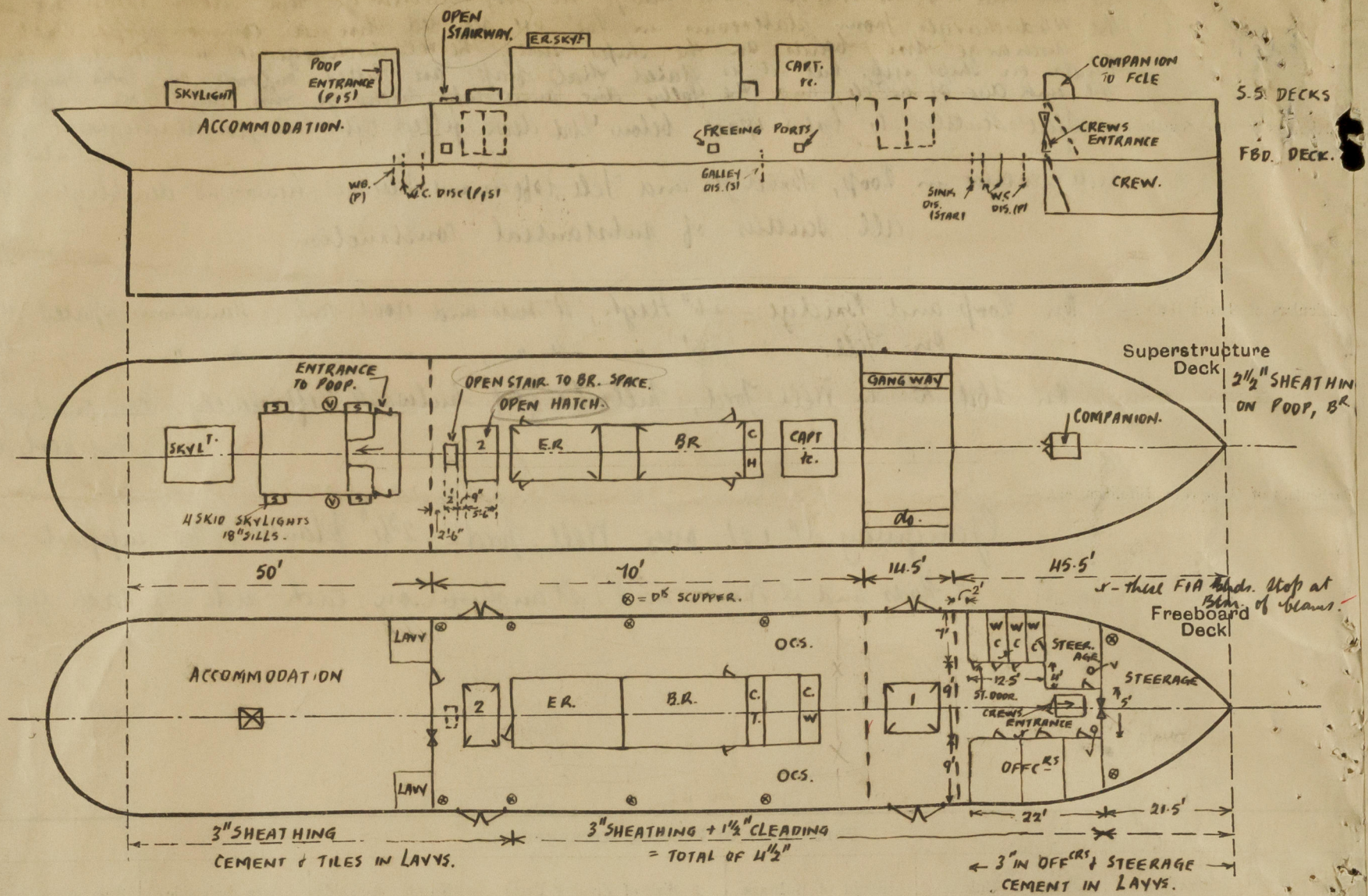
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well ...	✓					
Forward Well ...	14.5 ✓	Full Ht. of Superstructure.		None.		
State position of each freeing port (F. and A. position and height above deck edge) } After Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Forward Well:— 3 freeing ports (P+S) in sides of open bridge:— 18" x 14", 6" above deck; 2 rods and shutters with eyebolts for closing. 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" ✓	26" ✓	3" x 3" x 30"	30" mean ✓	✓	10 4'10" x 24" 10 17" x 14"	15" 48"	7'0" ✓
Raised Quarter Deck Bulkhead ...	✓							
Bridge, After Bulkhead ...	✓							
Bridge, Forward Bulkhead ...	✓							
Forecastle Bulkhead 21.5' AFT STEM...	30" ✓	26" ✓	2 1/2" x 2 1/2" x 30"	36" ✓	✓	4'9" x 24"	12"	7'0" ✓
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓							
Exposed Machinery Casings on Superstructure Decks ...	30 ✓	26 ✓	ER 2 1/2" x 1 1/4" 34 BR 2 1/2" x 2 1/4" x 34	30" 30"	✓	4'6" x 24"	18"	6'10" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	36 ✓	26 ✓	ER 2 1/2" x 1 1/4" 34 BR 2 1/2" x 2 1/4" x 34	2'1" 30"	✓	4'6" x 24"	17"	7'0" ✓
Deckhouses on Flush Deck Ships ...	✓							

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead ...	1" thick panelled wood door, operated both sides. } also two sidelights. one glass sliding window with efficient arrangements for closing.
Raised Quarter Deck Bulkhead ...	✓
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	✓
Forecastle Bulkhead ...	5-1" panelled wood doors to sidehangars, operated both sides. opening at centre line in Tbd. 21.5 ft. from stem has no door fitted.
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	✓
Exposed Machinery Casings on Superstructure Decks ...	Steel doors, in halves, permanently attached, and capable of being closed and secured both sides; also 6 hinged sidelights.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	Steel doors, in halves, permanently attached, and capable of being secured on inside only.
Deckhouses on Flush Deck Ships ...	✓

Hebrides

Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo 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:— *Tade: West Highland boasting.*

Survey was carried out afloat, and was confined to the items detailed in this Report.

The following information was obtained from the Builders:

Moulded displacement at 11'-9 1/2" moulded draft = 1074 tons.

Extreme Draft	Extreme Displ.	T.P. 1
12' 0"	1039 tons	9.36
13' 0"	1152 "	9.4
14' 0"	1266 "	9.6

Sheer @ 30' from FP = 24.09

Vest distance from top of keel to pld d/c = 13-10

+ 2-0

15-10

- 1-4 1/2

Top of keel to lower edge of lower 14-5 1/2 (correct)

Builder's name and yard number

Ailsa S.B. Coy. Ltd. No 40.

Names of sister ships

Owners

McCallum Bros and Co. Ltd.

Fee £

6 : 16 : 0

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