Rpt. C.11.

Preliminary Report..

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Index. No. **34791.**
(For London Office only.)

18 DEC 1935

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having *Poop. R.Q.D & Bridge combined. & Forecastle.*

(Type of Superstructures.)

Port of Survey *Glasgow*

Date of Survey *Building.*

Name of Surveyor *M. Macleod*

Particulars of Classification *+100A1.*
(Contemplated)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
Ailsa S.B. Co Ltd *Nos 421- 422.*	*British.*	.	approx: 850	Building.

Moulded Dimensions : Length *199'6"* / Breadth *32'0"* Depth *14'6"* to U.DK

Moulded displacement at moulded draught = 85 per cent. of moulded depth *1620* tons

Coefficient of fineness for use with Tables *·72.*

Depth for Freeboard (D)

Moulded depth ... ... *14'6"*

Stringer plate ... *·38"* ... *·03*

Sheathing on exposed deck $T\left(\frac{L-S}{L}\right)=$ √

Depth for Freeboard (D) = *14·53*

Depth correction

(a) Where D is greater than Table depth *1·23*
(D—Table depth) R = $(14·53 - 13·30)1·534$
= + *1·89"*

(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) *8"* *32·00'*

Standard Round of Beam $\frac{B \times 12}{50} = $ *7·68"*

Ship's Round of Beam = *8·00"*

Difference *Excess ·32"*

Restricted to

Correction = $\frac{Diff^o}{4} \times \left(1-\frac{S_1}{L}\right) = \frac{·32}{4} \times ·2268 = -·02"$

Full disp. at 1·0" above estimated Summer Mld. Dft 2023 tons.
" " at 1·0" below " " " 1722 tons.

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	*·33* *2·4"*	2·33	*8·0"*	√	2·33
" overhang...					
R.Q.D. enclosed ...	*·67* *113·8"*	113·67	*4·0"*	√	113·67
" overhang					
Bridge enclosed *equiv*	*9·2" 10·39*	10·39	*7·6"*	√	10·39
" overhang aft ...					
" overhang forward					
F'cle enclosed *equiv*	*30·4" 25·40*	25·40	*7·3"*	√	25·40
" overhang ...	*4·94*	2·47			2·47
Trunk aft					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total	156·73	154·26			154·26

Standard Height of Superstructure *6·00'*

" " R.Q.D. *3·663'*

Deduction for complete superstructure *25·95"*

Percentage covered $\frac{S}{L} = $ *78·56%*

" " $\frac{S_1}{L} = $ *77·32%*

" " $\frac{E}{L} = $ *77·32%*

Percentage from Table, Line A. *72·00%*
(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 = *25·95 × ·72 = — 18·69"*

Actual R.QD = 4·000
Standard = 3·663

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	29·95	1	29·95	33"	29·95	1	29·95
⅙L from A.P. ...	13·33	4	53·32	14"	13·33	4	53·32
⅔L " ...	3·295	2	6·59	3½"	3·295	2	6·59
Amidships ...	√	4	√	0		4	√
⅔L from F.P. ...	6·59	2	13·18	6½"	6·50	2	13·00
⅙L " ...	26·66	4	106·64	26"	26·00	4	104·00
F.P.	59·90	1	59·90	60"	60·00	1	60·00
Total ...	269·55		269·58				266·86

$\frac{\text{Mean actual sheer aft}}{\text{Mean standard sheer aft}} = Excess$

$\frac{\text{Mean actual sheer forward}}{\text{Mean standard sheer forward}} = Deficient$

$\frac{\text{Length of enclosed superstructure}}{L}$ forward of amidships = } *Deficient*
" " " aft of " = } *Sheer.*

Correction = $\frac{\text{Difference between sums of products}}{18}\left(·75 - \frac{S}{2L}\right) = \frac{2·72}{18}(·75 - ·3928) = + ·05"$
$\frac{2·72}{·3572}$

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.

R.Q Ft.
Depth to ~~Freeboard~~ Deck = *18·53*

Summer freeboard = *4·58*

Moulded draught (d) = *13·95*

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = *3·49 = 3½"*

Addition for Winter North Atlantic Freeboard (if required) = *3½ + 2 = 5½'.*

Deduction for Fresh Water.

Displacement in salt water at summer load water line
$\Delta = $ *1872*

Tons per inch immersion at summer load water line
T = *12·5 Tons.*

Deduction = $\frac{\Delta}{40T}$ inches
= *3·74*
= *3¾"*

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

23·01

Correction for coefficient $\frac{·72 + ·68}{1·36} = \frac{1·40}{1·36}$ *23·69*

	+	−
Depth Correction	1·89	-
Deduction for superstructures ...	-	18·69
Sheer correction	·05	-
Round of Beam correction ...	-	·02
Correction for Thickness of Deck amidships	-	-
Other corrections, ~~scantlings~~, etc. ...	48·00	
	49·94	18·71

+ 31·23

Summer Freeboard = *54·92*

S.B.
19.12.35

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

R.Q.DK

Tropical Fresh Water Line above Centre of Disc ...	7¼	Tropical Fresh Water Freeboard ...	3'-11¾"
Fresh Water Line " " ...	3¾	Fresh Water " " ...	4-3¼
Tropical Line " " ...	3½	Tropical " " ...	4-3½
Winter Line below " " ...	3½	Winter " " ...	4-10½
Winter North Atlantic Line " " ...	5½	Winter North Atlantic " " ...	5-0½

5m,9,32.

003321-003327-0231 ½

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway										
Dimensions of Hatchway										
COAMINGS Height above Deck ...										
Thickness { Sides / Ends ...										
Stiffeners										
Brackets, Stays ...										
HATCH BEAMS Number										
Spacing										
Scantling and Sketch ...										
Bearing Surface										
FORE AND AFTERS Number										
Spacing										
Unsupported Lengths ...										
Scantling* and Sketch ...										
Bearing Surface										
HATCH COVERS Material										
Thickness... ...										
How fitted										
Bearing Surface ...										
Spacing of Cleats										
Number of Tarpaulins										

*Are wood fore and afters steel shod at all bearing surfaces ?
Are battens and wedges efficient and in good condition ?
Are tarpaulins in good condition and in accordance with rule requirements ?
Are lashings provided in accordance with rule requirements ?

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles :—

Particulars of Companionways :—

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

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

Particulars of Gangway Cargo and Coaling Ports :—

Particulars of Scuppers and Sanitary Discharge Pipes :—

Particulars of Side Scuttles :—

Particulars of Guard Rails :—

Particulars of Gangways, Lifelines, etc. :—

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						

State position of each freeing port { After Well :—
(F. and A. position and height above deck edge) { Forward Well :—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :—

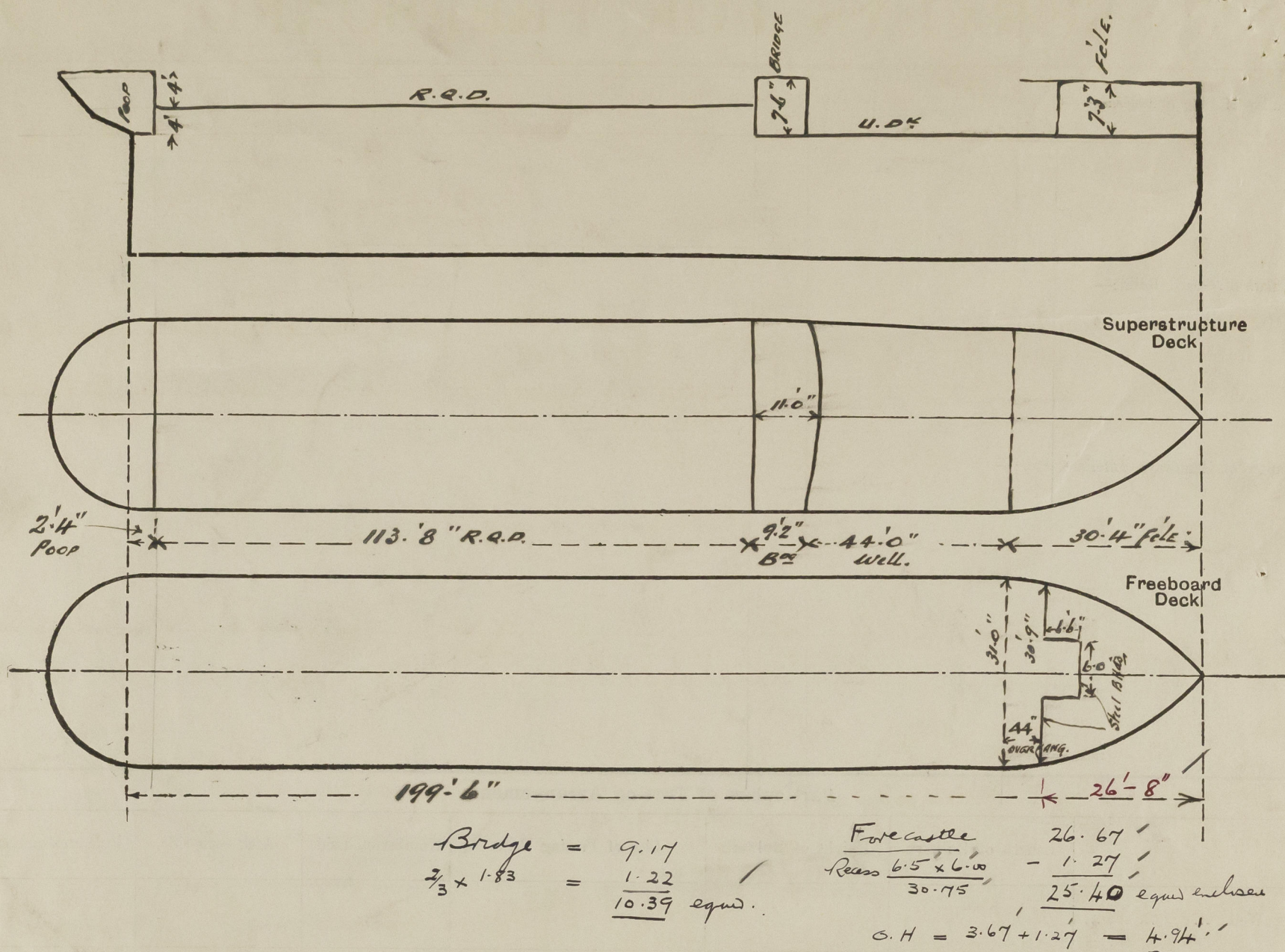Additional area where sheer is less than standard.

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								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead								
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks								
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 ...	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead ...	
Forecastle Bulkhead	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

0231 2/2

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 :—

Bridge = 9.17
$\frac{2}{3} \times 1.83$ = 1.22
10.39 equiv.

Forecastle   26.67
Recess 6.5 × 6.00   − 1.27
30.75   25.40 equiv enclosed

O.H = 3.67 + 1.27 = 4.94

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

approved Midship Section
& Profile & Deck Plans
forwarded for
reference
uul.

Request form enclosed.

Builder's name and yard number _Ailsa S.B.Co. Nº 421- 422._

Names of sister ships _r_

Owners _J. Hay & Sons._

Fee £ _8 : 0 . 0._   Received by me_____