B.T. COPY

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. 33887
(For London Office only.)

Computation of Freeboard for ~~Steamer, Sailing~~ Motor Ship, ~~Tanker~~
having Forecastle & Raised Quarter Deck.
(Type of Superstructures.)

Port of Survey London
Date of Survey 16-1-33.
Name of Surveyor Thomas E. Sowden.
Particulars of Classification +100A.1.

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"ASSIDUITY"	British London.	162,508	350	1930-11

Moulded Dimensions: Length 135. Breadth 24.50 Depth 9'-6"
Moulded displacement at moulded draught = 85 per cent. of moulded depth 568 tons
Coefficient of fineness for use with Tables .745

Depth for Freeboard (D)

Moulded depth 9.50
Stringer plate ·38.. ... ... .03
Sheathing on exposed deck $T\left(\frac{L-S}{L}\right) =$ ✓
Depth for Freeboard (D) = 9.53

Depth correction

(a) Where D is greater than Table depth
(D–Table depth) R =
(9.53 – 9.00) 1.038 = + .55"
(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) 24.50
Standard Round of Beam = $\frac{B \times 12}{50}$ = 5.88
Ship's Round of Beam = 6"
Difference .12
Restricted to
Correction = $\frac{Diff^e}{4} \times \left(1-\frac{S_1}{L}\right)$ = $\frac{.12}{4}$ × .2118 = –.01"

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 ...	89.69	89.69	3-6	✓	89.69
„ overhang ...					
Bridge enclosed					
„ overhang aft ...					
„ overhang forward	16.72				
F'cle enclosed Equiv. ...	~~15.56~~	16.72	7-0	✓	16.72
„ overhang	~~2.5.~~		7-0		
Trunk aft					
„ forward					
Tonnage opening aft ...					
„ „ forward					
Total	106.41	106.41			106.41

Standard Height of Superstructure 6.0
„ „ R.Q.D. 3.24
Deduction for complete superstructure 19.50
Percentage covered $\frac{S}{L}$ = 78.82%
„ „ $\frac{S_1}{L}$ = 78.82%
„ „ $\frac{E}{L}$ = 78.82%
Percentage from Table, Line A. 73.84%
(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 = 19.50 × .7384 = – 14.40"

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate		Effective Ordinate	S M	Product
A.P.	23.50	1	23.50	27"	27.00	23.50	1	23.50
⅙L from A.P. ...	10.46	4	41.84	13.5	13.43	10.46	4	41.84
2/6L „ ...	2.58	2	5.16	3.5	3.36	2.58	2	5.16
Amidships ...	✓	4	✓	–	✓	✓	4	✓
2/6L from F.P. ...	5.17	2	10.34	4¾	4.74	4.74	2	9.48
⅙L „ ...	20.91	4	83.64	19"	18.96	18.96	4	75.84
F.P.	47.00	1	47.00	45"	45.00	45.00	1	45.00
Total ...			211.48					200.82

Mean actual sheer aft / Mean standard sheer aft = Excess
Mean actual sheer forward / Mean standard sheer forward = Deficient.
Length of enclosed superstructure / L forward of amidships = } Def. Sh.
„ „ aft of „ = }

Correction = $\frac{\text{Difference between sums of products}}{18}\left(\cdot75-\frac{S}{2L}\right)$ = $\frac{10.66}{18}$ × (.75 – .3941) = + .21"
.3559

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.

		Ft.
Depth to Freeboard Deck	=	13.03
Summer freeboard	=	3.67
Moulded draught (d)	=	9.36

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 2.34 = 2¼
Addition for Winter North Atlantic Freeboard (if required)=

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

TABULAR FREEBOARD ~~corrected for Flush Deck (if required)~~ 13.60
Correction for coefficient $\frac{.745 + .68}{1.36} = \frac{1.425}{1.36}$ 14.25

	+	–	
Depth Correction	.55	✓	
Deduction for superstructures	✓	14.40	
Sheer correction	.21	✓	
Round of Beam correction	✓	.01	
Correction for ~~Thickness~~ Hgt. of R.Q. Deck amidships ...	42.00	✓	
Other corrections, scantlings, etc.	✓	✓	
	42.76	14.41	+ 28.35

Summer Freeboard = 42.60

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, RAISED QUARTER Deck:— 3'-8" (limited)

Tropical Fresh Water Line above Centre of Disc ...	...		Tropical Fresh Water Freeboard ...	...	
Fresh Water Line „ „ ...	...		Fresh Water „ ...	...	
Tropical Line „ „ ...	...		Tropical „ ...	...	
Winter Line below „ ...	...	2¼	Winter „ ...	...	3'-10¼
Winter North Atlantic Line „ „ ...	...		Winter North Atlantic „ ...	...	

5m.8.32.

1906 S 5'-7½
1906 Freeboard assigned

002536-002542-0088½

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

		No. 1	No. 2
Description of Hatchway		No. 1. U.D.	No. 2. R.Q.D
Dimensions of Hatchway		18'-6" × 16'	33'-3" × 16'
COAMINGS	Height above Deck	39	39
	Thickness: Sides	·375	·375
	Thickness: Ends	·375	·375
	Stiffeners	8" B.A.	8" B.A.
	Brackets, Stays	2	4
HATCH BEAMS	Number	2	4
	Spacing	6-2	6'-8"
	Scantling and Sketch	3½ × 3 × ·42; A 31½ / B 22 × ·38	3½ × 3 × ·42; A 26½ / B 19 × ·38
	Bearing Surface	3	3
FORE AND AFTERS	Number	3	3
	Spacing	4'	4'
	Unsupported Lengths	6'-2"	6'-8"
	Scantling* and Sketch	Wood C. 6¾ × 7; S 6¾ × 6½	7" × 7"; 6¾" × 6½"
	Bearing Surface	3	3
HATCH COVERS	Material	P	P
	Thickness	2½	2½
	How fitted	ATW	ATH.
	Bearing Surface	3	3
Spacing of Cleats		24	24
Number of Tarpaulins		3	3

*Are wood fore and afters steel shod at all bearing surfaces? Yes

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? Yes.

Particulars of fiddley, funnel and ventilator coamings :—

E.R. Skylight. Steel. strongly constructed
Funnel & Vent Coamings efficient

Particulars of Flush Bunker Scuttles :—

None.

Particulars of Companionways :—

None.

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

F'cle:- 2 at 5" × 30" high to Accm.
U.Dk 1 @ 8" × 36" - - Fore hold
R.Q.D. 1 @ 8" × 36" - - Aft -

Wood plugs & canvas covers fitted

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

F'cle:- 1 @ 1½" × 14" high to F.P.
R.Q.D 2 @ 1½ × 21" - to Fuel Tank.
2 @ 2" × 24" - - " -
1 @ 2½ × 14" - - A.P. -

~~No~~ Efficient means of closing provided.

Particulars of Gangway Cargo and Coaling Ports :—

None.

"Assiduity"

Particulars of Scuppers and Sanitary Discharge Pipes :—

1 in Fcle of 1 in Deck House aft led below deck & fitted with Storm valves

Particulars of Side Scuttles :—

Fitted with fixed hinged deadlights.

Particulars of Guard Rails :—

Fcle Dr :- 3ft high, 2 rods, & 4'-6" spacing of stanchions

Particulars of Gangways, Lifelines, etc. :—

Suitable lifelines are provided & adequate means of

Securing Same available

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	89·69	3'-3"	29" × 18"	4	14·5	17·94
Forward Well	27'-3"	3'-6"	38" × 18"	2	9·5	9·22

State position of each freeing port (F. and A. position and height above deck edge) ... ... { After Well :— 28', 49' 63 & 80 ft aft of RQ.D bulkd ; 4" sill. Forward Well :— 6' & 16' fwd of RQ.D ; 9" " .

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such :— 1 bar to each port.

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

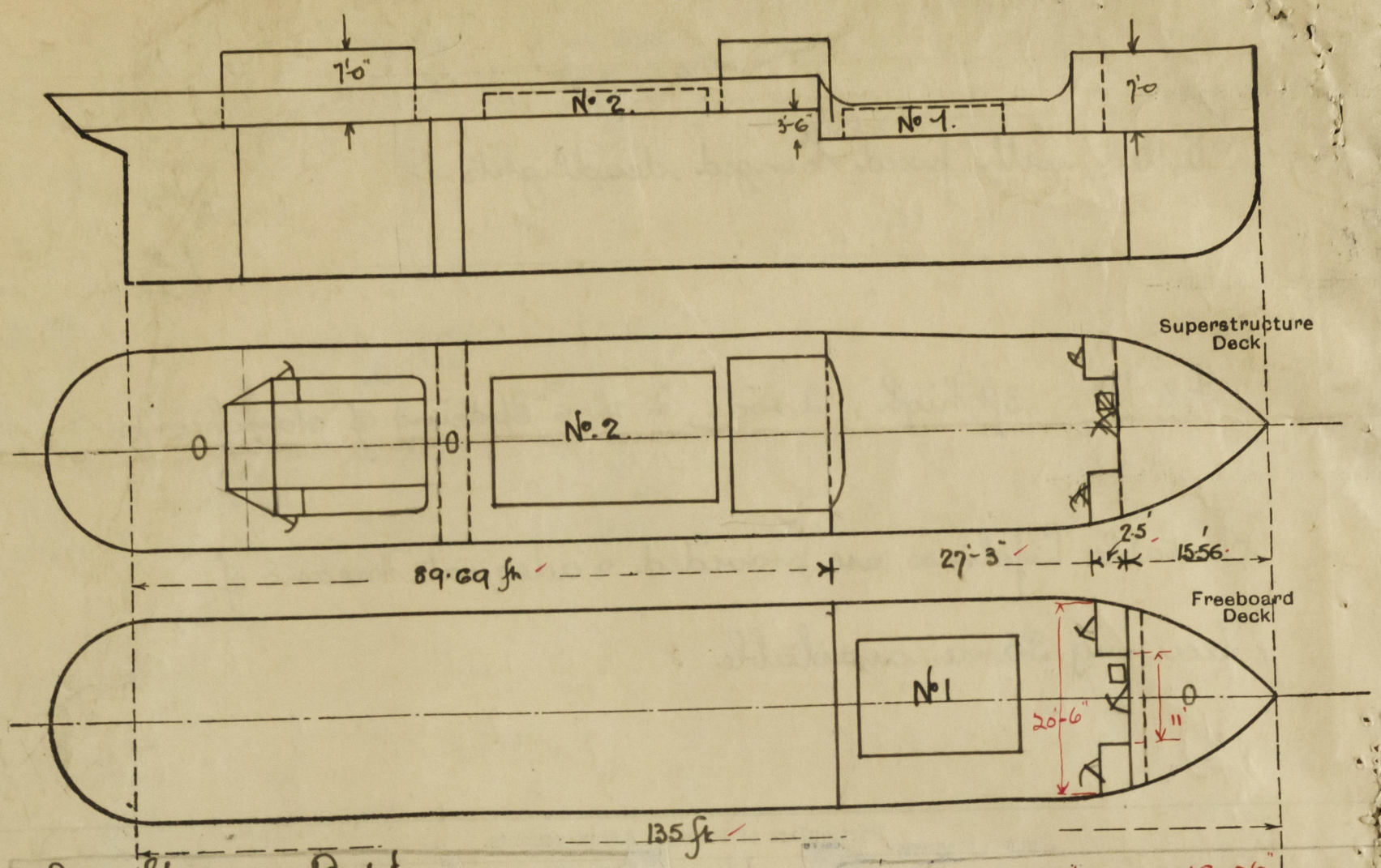
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...	-	·36	3"×3"×·38 & 2 deep webs.	33"	None.	None	-	3'-6"
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead	39"×·26	·26	2½×2½×·30	28"	None.	3 @ 4'-2"×20"	26"	7'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings ~~on Freeboard or~~ Raised Quarter Decks ...	32×·26	·26	2½×2½×·26	30"	None	2 @ 4'-6"×2'	24"	7'-0"
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 ...	No openings.
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	
Forecastle Bulkhead	1 @ hinged steel doors & hinged steel doors, operated from both sides.
Exposed Machinery Casings ~~on Freeboard or~~ Raised Quarter Decks ...	2 " " " operated from boths sides
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
Deckhouses on Flush Deck Ships ...	

Asiatic

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 :—



Draught.	Displt.	
8'-0"	562	tons displt.
8'-6"	602	"
9'-0"	641	"
9'-6"	681	"

$L = 18.06'$

DED. $\frac{11 \times 2.5}{20.5} = \frac{1.34}{16.72}$ = Equiv

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

Small Hatches:-

1 on Fore Deck to Ch Lr. 24" x 20" x 18" high with covers clips battens & tarpaulins

1 Steel manhole in Fcle to F.P. 16" x 12" & 3" coaming W.T. steel cover.

1 " " on aft deck to A.P. " " " " " "

1 " " - R.Q.D to oil tank " " " " "

Builder's name and yard number Geo. Brown & Co. No 174.

Names of sister ships

Owners J. J. Everard & Sons Ltd

Fee £ 5 2 0 Received by me

(C 19 JAN 1933)