

Rpt. C.11.

Index. No. **28126**
(For London Office only.)Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

28 JUL 1932

Computation of Freeboard for Steamer, Sailing Ship, Tug					Port of Survey <u>Newcastle on Tyne</u>	
having <u>Quarter Deck, Bridge & Forecastle</u>					Date of Survey <u>26 July 1932</u>	
(Type of Superstructures.)					Name of Surveyor <u>C. Stephenson</u>	
Ship's Name <u>APOLLO</u>	Nationality and Port of Registry <u>British</u>	Official Number <u>130056</u>	Gross Tonnage <u>752 130 T</u>	Date of Build <u>1919-12</u>		
<u>GOODIE</u>	<u>PORTHMEAR</u>	<u>Clawderry Cardiff</u>	<u>749</u>			
Moulded Dimensions: Length <u>190.66</u> Breadth <u>29.0</u> Depth <u>13.8</u>					Particulars of Classification <u>100A.1</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth					<u>S.S. Reg. No. 227</u>	
Coefficient of fineness for use with Tables <u>.720</u>						

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	13.67	(a) Where D is greater than Table depth		Moulded Breadth (B)	29.00
Stringer plate	.04	(D - Table depth) R =	$(13.71 - 12.71) \times 466 = +1.466$	Standard Round of Beam = $\frac{B \times 12}{50}$	6.96
Sheathing on exposed deck		(b) Where D is less than Table depth (if allowed)		Ship's Round of Beam	8
$T \left(\frac{L-S}{L} \right) =$		(Table depth - D) R =		Difference	Green 1.04
Depth for Freeboard (D) =	13.71	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$= \frac{1.04}{4} \times \left(1 - \frac{7550}{225} \right) = -0.06$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed						Standard Height of Superstructure 6.00
" overhang						" " R.Q.D. 3.605
R.Q.D. enclosed	108.2	108.17	3.9		108.17	Deduction for complete superstructure 25.066
" overhang						Percentage covered $\frac{S}{L} = 76.66$
Bridge enclosed	10.6	10.50	7.3		10.50	" " $\frac{S_1}{L} = 75.50$
" overhang aft						" " $\frac{E}{L} = 75.50$
" overhang forward						Percentage from Table, Line A. 69.77
Forecastle enclosed	23.07	23.07	7.0		23.07	(corrected for absence of forecastle (if required))
" overhang	4.43	2.21			2.21	Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2 L (if required)
Tonnage opening aft						Deduction = $25.066 \times 69.77 = 17.49$
" forward						
Total	146.17	143.95			143.95	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	29.07	1		29.07	39	39.00	1		40.74
1/4 L from A.P.	12.94	4		51.76	15.4	16.39	4		72.52
1/2 L	3.20	2		6.40	3 1/2	4.15	2		8.96
Amidships		4					4		
3/4 L from F.P.	6.39	2		12.78	7 1/4	7.30	2		14.60
1/4 L	25.87	4		103.48	29	29.22	4		116.88
F.P.	58.13	1		58.13	72	72.00	1		72.00
Total				261.62					325.70

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{261.62 - 325.70}{18} \left(\frac{75 - 143.95}{2 \times 190.66} \right) = -1.31$

If limited on account of midship superstructure.

Mean actual sheer aft = Green
Mean standard sheer aft = Green
Mean actual sheer forward = Green
Mean standard sheer forward = Green
Length of enclosed superstructure forward of amidships = 122
" " aft of " = 50

Deduction for Tropical Freeboard.
Addition for Winter and Winter North Atlantic Freeboard.Depth to R.Q.D. Deck = 17.46
Summer freeboard = 4.15
Moulded draught (d) = 13.31

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 3.33Addition for Winter North Atlantic Freeboard (if required) = $2' + 3'4'' = 5'4''$

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Tons per inch immersion at summer load water line

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

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.720 + .68}{1.36} = \frac{1.40}{1.36}$

	+	-
Depth Correction	1.47	
Deduction for superstructures		17.49
Sheer correction		1.31
Round of Beam correction		.06
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	46.47	18.86

Summer Freeboard = 49.75

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, RAISED QUARTER Steel Deck: 4'-12"

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

Tropical Fresh Water Freeboard	3'-7 1/2"
Fresh Water	3'-10 1/2"
Tropical	3'-11"
Winter	4'-5"
Winter North Atlantic	4'-7"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Freebd. dk. Gr. Deck. Coaming Top. Fbd. dk.									
Description of Hatchway	No. 1.	No. 2.	Coal Hatch.	To Chain locker.					
Dimensions of Hatchway	35'-0" x 16'-0"	35'-0" x 16'-0"	7'-6" x 18'-0"	4'-0" x 2'-6"					
COAMINGS	Height above Deck	37"	37"	7'-9"					
	Thickness	44	44	32					
	Sides	44	44	32					
	Ends	44	44	32					
	Stiffeners	7 x 3 B.A.	7 x 3 B.A.	32					
	Brackets, Stays	3 @ 8" B.P.	3 @ 8" B.P.						
HATCH BEAMS	Number	7	7						
	Spacing	4'-4 1/2"	4'-4 1/2"						
	Scantling and Sketch	14" to 7 1/2" x 3 1/4"	14" to 7 1/2" x 3 1/4"						
		Double angles.							
	Bearing Surface	3"	3"						
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch								
	Bearing Surface								
HATCH COVERS	Material	W.P.	W.P.	W.P.	W.P.				
	Thickness	2 1/2"	2 1/2"	2 3/8"	2"				
	How fitted	Fra.	Fra.	Fra.	7.				
	Bearing Surface	3.4 x 8	3.4 x 8	2 1/2"	1 3/8"				
Spacing of Cleats	27"	24, 28 & 30"	18"	18"					
Number of Tarpaulins	2.	2.	2.	2.					

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.*

A number of hatch beam top angles badly bent require to be flaired.

Particulars of fiddle, funnel and ventilator coamings:— *Engine Room skylight steel & of strong construction. Funnel and Ventilators in good condition. Stokehold gratings fitted with hinged steel covers.*

Particulars of Flush Bunker Scuttles:— *none.*

Particulars of Companionways:— *In steel Bridge house to Bridge deck accommodation. door teak 1 1/2" frame 3/8" panels. 4'-9" x 1'-7". sill 11". operated from Both sides.*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
*In Fore well deck. 2 @ 11" dia 36" high. 32 to holds.
 On Raised Quarter deck. 2 @ 10" " 30" " 32 " "
 On Bridge deck. 2 mushroom vents. 6" high. with screw down tops. to accommodation
 Cowl head vents have wood plugs and canvas covers.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
*On Forecastle deck 1 @ 3" dia. 12" to mouth to Fore Peak.
 In Fore well " 1 @ 2 1/2" " 10" " to C.D.B.
 On R. Quarter " 2 @ 2 1/2" " 24" "
 " " 1 @ 2 1/2" " 14" to open end. no bend. to After Peak.
*wood plugs provided for closing
 no means of closing.**

Particulars of Gangway Cargo and Coaling Ports:—

none.



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Particulars of Scuppers and Sanitary Discharge Pipes :—

3 W.C. discharges overboard with Storm valves at shell. For positions see diagram on back.

Particulars of Side Scuttles :— Sidelights in Forecastle have strong hinged metal deadlights.

Particulars of Guard Rails :— Forecastle deck. Rails 3'-0" high. 2 Rods. Stanchions 4'-6" apart.

Particulars of Gangways, Lifelines, etc. :—

none

Provision is made for rigging lifelines where required for use of crew

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Raised Br. Dek. After Well ...	108'-2"	3'-0"	2'-6" x 1'-6" 3 x 1-2	3. 3	4.25 21 1/2	21.63
Forward Well ...	44'-6"	4'-2 1/2"	2'-8" x 1'-7"	3.	12.67	10.95

State position of each freeing port ... } R.R. Deck }
(P and A. position and height above deck edge) } After Well: From Bridge end Bhd. 16'-9": 43'-4": 166'-3". 10" above deck.
Forward Well: From F.C. deck end: 17'-0": 28'-9": 40'-3": 11" "

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.

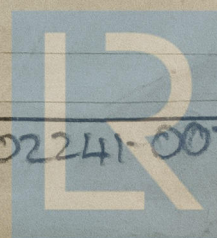
Freeing ports rectangular, fitted with survival steel shutters, except aftermost port in Fore well which is open with one horizontal rod.

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 ...	✓	38	Bhd lined		✓	✓	✓	3'-9"
Bridge, After Bulkhead ...	✓	38	Bhd lined		✓	✓	✓	7'-3"
Bridge, Forward Bulkhead ...	40	36	3 x 3 x 40 B.A. Bhd. lined 30"	33.	lugs.	none.		7'-3"
Forecastle Bulkhead ...	✓	25	3 x 3 x 36	33.	✓	2 @ 4'-8" x 1'-8"	15"	7'-0"
Trunk, Aft ...	✓							
Trunk, Forward ...	✓							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	34	30	3 x 3 x 34	36	Bkts at Top.	2 @ 4'-7" x 1'-10" 2 @ 4'-5" x 1'-9"	20" 18"	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).

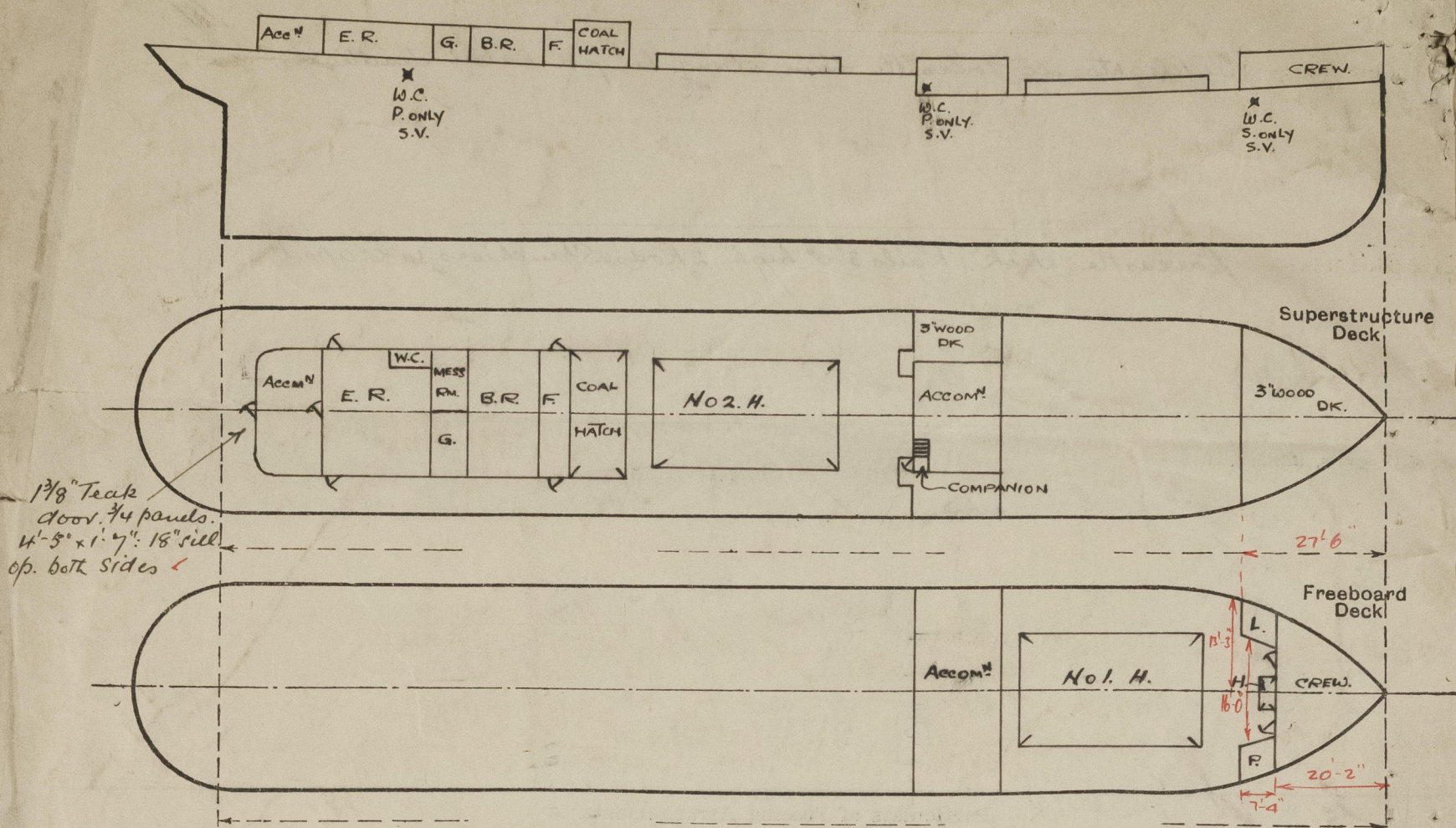
Poop Bulkhead ...	✓
Raised Quarter Deck Bulkhead ...	✓ } no openings
Bridge, After Bulkhead ...	✓
Bridge, Forward Bulkhead ...	✓ } no openings
Forecastle Bulkhead ...	Leak doors. 1 1/2" frame. 3/4" panels. operated from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	2 ordinary steel hinged doors. operated from both sides. Locks defective.
Exposed Machinery Casings on Superstructure Decks ...	2 Leak doors. 1 1/2" frame 3/4" panels. operated from both sides. Locks defective.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	✓
Deckhouses on Flush Deck Ships ...	



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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—



Hole enclosed 20'
Sideline 7.33 x 5.25 = 2
13.25
20'
overhang = 4'

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

Timber assignment not required.

Vessel measured in dry dock, where she is now completing Special Survey. Survey expected to be complete before vessel sails.

Builder's name and yard number

Forth Shipbuilding Engineering Co Ltd

sister ships

Owners

Stone & Rolfe Ltd

Fee £

6 : 16 : -

Received by me



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