

## Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD. N<sup>o</sup> 30904

Computation of Freeboard for Steamer, Sailing Ship, Tanker  
having Poop, Bridge and Forecastle

Port of Survey Sunderland

Date of Survey 2<sup>nd</sup> May 1932

Name of Surveyor M. Caldwell

Particulars of Classification +100 A-1

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
"GOATHLAND"	British Whitby	137084	3821	1924-4

Moulded Dimensions: Length 365' 0" Breadth 50' 25" Depth 24' 11"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 8875 tons

Coefficient of fineness for use with Tables 800

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>24.92</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(24.95 - 24.31) 2.804</u>	Moulded Breadth (B)
Stringer plate ... .. <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>+1.79</u>	Standard Round of Beam = $\frac{B \times 12}{50} = 12.06$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>12</u>
Depth for Freeboard (D) = <u>24.95</u>		Difference = <u>+0.06</u>
		Restricted to
		Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.06}{4} (2134) = +12.6$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>33' 4 1/2"</u>	<u>33.37</u>	<u>8' 0"</u>		<u>33.37</u>	Standard Height of Superstructure <u>7.15</u>
" overhang sidehouses	<u>.97</u>	<u>.97</u>			<u>.97</u>	" " R.Q.D. <u>-</u>
R.Q.D. enclosed						Deduction for complete superstructure <u>39.64</u>
" overhang						Percentage covered $\frac{S}{L} = .7879$
Bridge enclosed...	<u>216' 8 1/2"</u>	<u>216.75</u>	<u>8' 0"</u>		<u>216.75</u>	" " $\frac{S_1}{L} = .7879$
" overhang aft						" " $\frac{E}{L} = .7879$
" overhang forward						Percentage from Table, Line A.
Forecastle enclosed ...	<u>36' 1 1/2"</u>	<u>36.12</u>	<u>8' 0"</u>		<u>36.12</u>	(corrected for absence of forecastle (if required))
" overhang ... including 2' 0" overhang						Percentage from Table, Line B. <u>.7385</u>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>39.64 x .7385 = -29.26</u>
" forward						
Total ...	<u>287.21</u>	<u>287.21</u>			<u>287.21</u>	

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>46.46</u>	1		<u>46.46</u>	<u>57</u>	<u>57.00</u>	1		<u>57.00</u>	Mean actual sheer aft = <u>Even</u>
1/4 L from A.P. ...	<u>20.67</u>	4		<u>82.68</u>	<u>25 1/2</u>	<u>25.08</u>	4		<u>100.32</u>	Mean actual sheer forward = <u>Even</u>
1/2 L " ...	<u>5.11</u>	2		<u>10.22</u>	<u>6 1/2</u>	<u>6.27</u>	2		<u>12.54</u>	Mean standard sheer forward
Amidships ...		4		<u>0</u>	<u>0</u>		4			Length of enclosed superstructure forward of amidships = <u>✓</u>
3/4 L from F.P. ...	<u>10.22</u>	2		<u>20.44</u>	<u>13</u>	<u>12.54</u>	2		<u>25.08</u>	" " aft of " = <u>✓</u>
1/4 L " ...	<u>41.34</u>	4		<u>165.36</u>	<u>51</u>	<u>50.15</u>	4		<u>200.60</u>	
F.P. ...	<u>92.92</u>	1		<u>92.92</u>	<u>114</u>	<u>114.00</u>	1		<u>114.00</u>	
Total ...				<u>418.08</u>					<u>509.54</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{75 - S}{2L} \right) = \frac{91.46}{18} (.75 - .3939) = -1.81$

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.

Depth to Freeboard Deck = 24.95

Summer freeboard = 3.06

Moulded draught (d) = 21.89

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 5.47 5 1/2"

Addition for Winter North Atlantic Freeboard (if required) = ✓

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 92.25$

Tons per inch immersion at summer load water line

$T = 57.74$

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

= 6.11 6"

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

Correction for coefficient 800 + 68

1.36

Depth Correction ... .. 1.79

Deduction for superstructures ... .. 29.26

Sheer correction ... .. 1.81

Round of Beam correction ... .. -

Correction for Thickness of Deck amidships ... .. -

Other corrections, scantlings, etc. ... .. -

+	-
<u>1.79</u>	<u>31.07</u>
	<u>-29.28</u>
	Summer Freeboard = <u>36.86</u>

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

Tropical Fresh Water Line above Centre of Disc ... .. 11 1/2

Fresh Water Line " " ... .. 6

Tropical Line " " ... .. 5 1/2

Winter Line below " " ... .. 5 1/2

Winter North Atlantic Line " " ... .. 6

Tropical Fresh Water Freeboard ... .. 2 1/2

Fresh Water " " ... .. 2 - 5/8

Tropical " " ... .. 2 - 7/8

Winter " " ... .. 3 - 1/4

Winter North Atlantic " " ... .. -

17 - MAY 1932

112 W403-0041

11 MAY 1932

RECEIVED 8 - SEP 1932



## PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway			No 1. Fore Well	No 2. Forward Bridge Deck	No 2. on Trunk Deck	No 3 (Bunker) on Bridge Deck	No 3 (Bunker) on Trunk Deck	No 4. Aft Bridge Deck	No 4 on Trunk Deck	No 5 on Aft Well	Bunker hatch on Bridge Deck	Bunker hatch on Trunk Deck
Dimensions of Hatchway			29'-9" x 20'-0"	29'-9" x 20'-0"	29'-9" x 20'-0"	12'-9" x 19'-0"	12'-9" x 19'-0"	29'-9" x 20'-0"	29'-9" x 20'-0"	29'-9" x 20'-0"	23'-4" x 6'-1 1/2"	23'-4" x 6'-1 1/2"
COAMINGS	{	Height above Deck	36"	30"	12" x 3 1/2" x 50"	30"	34"	30"	30"	30"	32"	32"
		Thickness { Sides	{ .44	{ .44	{ .44	{ .50	{ .44	{ .44	{ .44	{ .44	{ .34	{ .34
		Ends										
		Stiffeners ...	7" x 3" x 40 B.A.	As for.	B.A.	As for.	None	As for.	B.A.	As for.	None	As for.
		Brackets, Stays	2-2 1/2" dia	No 1.	Coaming.	None	None	No 1.	Coaming	No 1.	None	Coaming
HATCH BEAMS	{	Number ...	5	5	5	One	One	5	5	5	None	None
		Spacing ...	5'-0"	5'-0"	5'-0"	One	One	5'-0"	5'-0"	5'-0"	None	None
		Scantling and Sketch	4-4" x 3" x 44 18" x 36	4-4" x 3" x 44 13" x 34	7-7" x 3" x 44 As for.	2-5" x 3" x 44 15" x 34	5" x 3" x 44 19" x 38	4-4" x 3" x 44 13" x 34	As for. No 1.	As for. No 1.	None	None
		Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
FORE AND AFTERS	{	Number ...	None									
		Spacing ...										
		Unsupported Lengths										
		Scantling* and Sketch										
		Bearing Surface										
HATCH COVERS	{	Material ...	B. pine	B. pine	B. pine	B. pine	B. pine	B. pine	B. pine	B. pine	B. pine	B. pine
		Thickness ...	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
		How fitted	F & A.	F & A.	F & A.	F & A.	F & A.	F & A.	F & A.	F & A.	Atthwart	Atthwart
		Bearing Surface	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
Spacing of Cleats			22"	22"	22"	22"	22"	22"	22"	22"	22"	22"
Number of Tarpaulins			2	2	2	2	2	2	2	2	2	2

\*Are wood fore and afters steel shod at all bearing surfaces? None.

Are battens and wedges efficient and in good condition? Yn.

Are tarpaulins in good condition and in accordance with rule requirements? Yn.

Are lashings provided in accordance with rule requirements? Yn.

12 Trimming Hatches on Bridge spaced 12" x 14" x 50 B.A coaming covered by steel banded green covered with rubber sheet. Hatch to F.P. space on bridge deck. 22" dia. coaming 24" x 40 wood cover 2 1/2" thick. 2 tarpaulins 6'0" x 6'0" aft peak hatch on poop deck. 30" x 44 coaming 2 1/2" B. pine wood cover fitted F & A on 3 1/2" rest bars and fitted with 2 tarpaulins, cleats spaced 20".

Particulars of fiddle, funnel and ventilator coamings:— Stakehold gratings covered by strong steel hinged doors. ✓  
Fiddle and Funnel Ventilators in efficient condition ✓  
E.R. skylights of steel strongly constructed. ✓

### Particulars of Flush Bunker Scuttles:—

Amie —

Particulars of Companionways :—

One on poop deck. 4'3" x 2'6" x 5'6" high of steel .36 thick leading to poop space.  
Opening 2'0" x 3'8" with 15" sill. Wood door 1 3/4" frame and 1" panels.

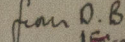
Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

3-6" Vents on <u>castle deck</u> .	Commonp.	18" x .32	to fo'castle upper rake space
2-18" — " — "	"	36" x .36	to hold.
8-18" Vents on <u>bridge deck</u>	"	36" x .36	to hold & bunker.
4-21" Vents — " — "	"	36" x .38	to hold & bridge space.
2-18" Vents in <u>aft well deck</u>	"	36" x .36	to hold.
1-10" Vent on <u>poop deck</u> .	"	27" x .32	to tunnel.

All ventilators constructed in accordance with rule requirements and coverings closed with wood plugs and canvas covers ✓

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

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—									
1. C.1.	Air pipe on poop deck	3½" dia	from aft Peak	8½" to	lip	16½" to	underside of keel		
2. C.1.	— " —	— " —	from A.B tanks	10" to	"	13" to	"	"	"
2. C.1.	Air & sounding pipes on bridge decks	3" dia	— " —	18" to	22" to	7" to	"	"	"
4. C.1.	Air pipes	2½" dia	— " —	6" to	"	12" to	"	"	"
2. C.1.	— " —	3" dia	— " —	6" to	"	12" to	"	"	"
2. C.1.	— " —	2½" dia	— " —	10" to	"	13" to	"	"	"
1. C.1.	— " —	4" dia	from F.P tank	5" to	"	12" to	"	"	"

An air pipe in food well from O. B. tank) as  
~~shown in sketch~~ 4" dia.  36" in height  
~~For earth~~  
~~front~~ ~~depth~~

Air pipes have no anything holes on top of  
 head and are ~~not~~ provided with plugs  
covers. *efficient means of closing.*

Particulars of Gangway Cargo and Coaling Ports :—

None

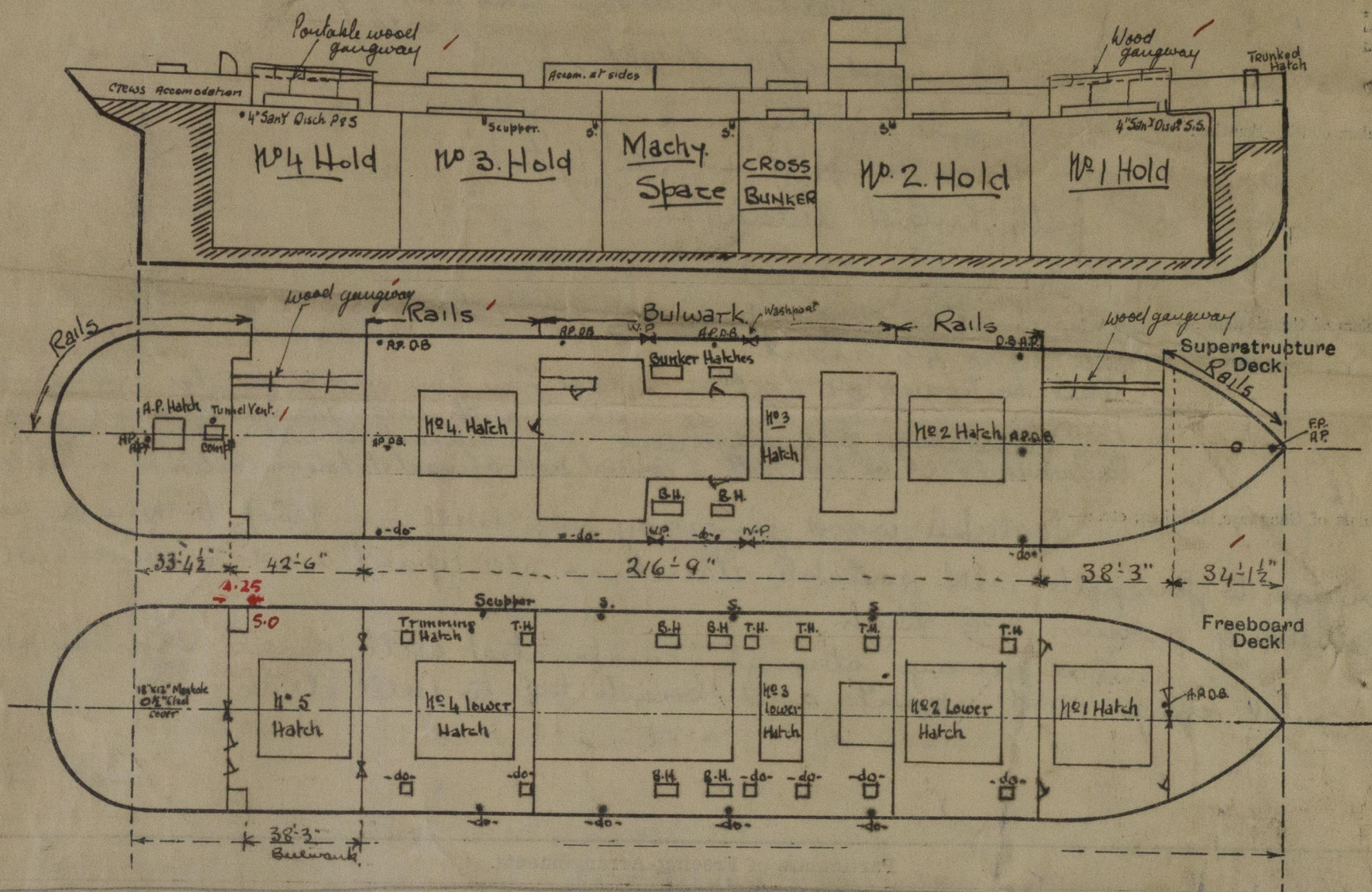
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Foundation







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:—



Draught.	Displacement	T.P. I.
21'-0"	8828	37.6
22'-0"	9215	37.75
23'-0"	9700	37.8

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

This Vessel has been runnied afloat. Examined decks, latches and Latchways, ventilators and coamings, deck openings and general equipment and found satisfactory

Port wh. 4.2575 : 97 ✓  
22.

Builder's name and yard number R. Thompson & Sons Ltd. No 320

Names of sister ships

Owners Rowland & Marwood's S.S. Co Ltd. (Headlam & Sons Managers).

Fee £ 11 : 18

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