

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

31834

Computation of Freeboard for Steamer, Sailing Ship, Tanker

Having

Goop. Bridge and Forecastle

Port of Survey

Aubrey

(Type of Superstructures.)

Date of Survey

5th January 1933

Name of Surveyor

A. J. Letae

Ship's Name

GRAIGWEN

Nationality and Port of Registry

British

148289

Gross Tonnage

3697

Date of Build

1926.2

Moulded Dimensions: Length

363.0

Breadth

51.85

Depth

25.0

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

9095

tons

Coefficient of fineness for use with Tables

.804

Particulars of Classification

Hoop 1. 6. 31.

32 Std. W. 1. 30

Depth for Freeboard (D)

Moulded depth

25.00

Stringer plate

.03

Sheathing on exposed deck

 $T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) =

25.03

Depth correction

(a) Where D is greater than Table depth

(D - Table depth) R =

 $(25.03 - 24.20) 2.792 = 2.32$

(b) Where D is less than Table depth (if allowed)

(Table depth - D) R =

If restricted by superstructures

Round of Beam correction

.32

Moulded Breadth (B)

51.85

Standard Round of Beam = $\frac{B \times 12}{50} =$

12.36

Ship's Round of Beam =

12.50

Difference

.14

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ $\frac{.18}{4} \times 2.177 =$

.01

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	27.08	27.08	7'0"	7'0/7.13	26.60
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	220.00	220.00	7'0"	7'0/7.13	216.00
" overhang aft ...					
" overhang forward ...	37.42				
Forecastle enclosed ...	36.86	36.86	7'3"		36.86
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	284.58	283.94			279.46

Standard Height of Superstructure

7.13

" " R.Q.D.

Deduction for complete superstructure

39.53

Percentage covered $\frac{S}{L} =$

78.38

" " $\frac{S_1}{L} =$

78.23

" " $\frac{E}{L} =$

77.00

Percentage from Table, Line A.

(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 =

-28.31

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	46.30	1		46.30	56"	56.00	56	1	56.00
$\frac{1}{2}$ L from A.P. ...	20.61	4		82.44	25"	24.89	24.89	4	99.56
$\frac{3}{8}$ L " ...	5.09	2		10.18	6 1/2"	6.21	6.21	2	12.42
Amidships ...		4						4	
$\frac{3}{8}$ L from F.P. ...	10.19	2		20.38	12 1/2"	12.41	12.41	2	24.82
$\frac{1}{2}$ L " ...	41.22	4		164.88	49 3/4"	49.77	49.77	4	199.08
F.P. ...	92.60	1		92.60	112"	112.00	112.00	1	112.00
Total ...				416.78					503.88

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{87.10}{18} \left(.75 - .3918 \right) =$

-1.73

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 =

25.03

Summer freeboard =

3.17

Moulded draught (d) =

21.86

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches =

5.46 5 1/2"

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

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

=

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

 $.804 + .68 = 1.484$

1.36

1.36

Depth Correction ...

2.32

Deduction for superstructures ...

28.31

Sheer correction ...

1.73

Round of Beam correction ...

.01

Correction for Thickness of Deck amidships ...

-

Other corrections, scantlings, etc. ...

-

2.32 30.05

-27.73

Summer Freeboard = 38.07

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

Tropical Fresh Water Line above Centre of Disc ...

Fresh Water Line

Tropical Line

Winter Line

Winter North Atlantic Line

Tropical Fresh Water Freeboard ...

Fresh Water

Tropical

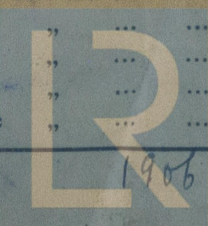
Winter

Winter North Atlantic

3' - 2"

3 - 7 1/2"

W403 - 0084 112



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3 - 7 1/2"

Lloyd's Register
Freeboards re-assigned
Foundation

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
			On B. Deck		On B. Deck		On B. Deck		On B. Deck		On Boat Deck	
Description of Hatchway			Nº1	Nº2	Nº3	Nº4	Nº5	Nº2	Nº3	Nº4	Coal Shoot	Boat Space
Dimensions of Hatchway			27'0" x 17'9"	30'0" x 17'9"	12'6" x 17'9"	27'6" x 17'9"	27'6" x 17'9"	30'0" x 17'9"	12'6" x 17'9"	27'6" x 17'9"	4'0" x 12'0"	8'6" x 17'0"
COAMINGS	{	Height above Deck	45"	30"	30"	30"	33"	L 9' 3/4" x 3 1/2" x 44"			4'0" x 12'0"	8'6" x 17'0"
		Thickness	Sides	30"	30"	30"	33"				6"	18"
		Stiffeners	Ends	44"	44"	44"	44"				40"	44"
		Brackets, Stays	2 1/2" dia.	L 7' x 3" x 42"	12" from Top	on sides only	2 each side				40"	44"
HATCH BEAMS	{	Number	5	4	2	4	5	5	2	5	1	1
		Spacing	4'6"	6'0"	4'2"	5'6"	4'7"	5'0"	4'2"	6'6"	4'3"	4'3"
		Scantling and Sketch	Plate 15" x 34"	15" x 38"	11 1/2" x 30"	12" x 34"	15" x 35"	16" x 40"	15" x 30"	16" x 40"	9 1/2" x 34"	2 L 3 1/2" x 3 1/2"
		Bearing Surface	4" x 3" x 44"	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	OTHER HATCHWAYS									
		Spacing	To Upper F. Peak on F. Deck 4'0" x 3'2" 1/2" x 5" x 40" L									
		Unsupported Lengths	To Chain Locker " " 2'0" x 1'6" 1/2" x 3" x 40" L									
		Scantling* and Sketch	Trimming hatch on F. Deck inside bridge - Peak side 2'5" x 2'3" 1/2" x 3" x 44" L									
HATCH COVERS	{	Bearing Surface	To Side Bulkhead on B. Deck 12'0" x 3'0" " 3'0" x 44" L									
		To Stores on Roof Deck 3'0" x 2'6" 9" x 3" x 44" L										
		Wood 2 1/2"										
		Fore and Aft 3" and 4"										
Spacing of Cleats			24" maximum									
Number of Tarpaulins			3	2	2	2	3	1	1	1	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*

Particulars of fiddle, funnel and ventilator coamings:—
 2 ventilators 50" dia x 10' coaming to D. R.
 2 " 20" " x 6' " to E. R.
 Engine room steel skylights with flap covers and hull's eyes.
 One fiddle opening are provided with steel covers permanently attached.
 Height of fiddle top. 7'6" above Dredge Deck.

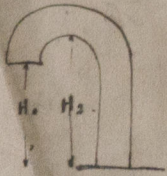
Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :— ✓

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

On Fore Deck. To fore end of Fore space.	1 off. 8" dia x 18" coaming x .32"	On Bridge Deck.	11 off. 16" dia x 32" coaming x .34"
• Fore Accommod.	4 " 8" " x 18" " x .32"		8 " 12" " x 34" " x .30"
and 2 gosseswicks.	3" dia x 9" high.	On Poop Deck.	1 " 16" dia x 18" " x .32" to Tunnel.
			2 " 6" " x 18" " x .32"
			1 " 6" " x 8" " x .26" to Pores.
In Fore Well.	2 off. 16" dia x 36" coaming x .34"	All ventilators are provided with canvas covers and wood plugs. Revealing to shell decks to Rule's requirements.	
In After Well.	2 " 16" " x 36" " x .34"		

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



On Bridge Deck. $2\frac{1}{2}$ " and 3" steel plates $H_1 = 9"$ $H_2 = 12"$
On Vorr Deck. 3" steel plate $H_1 = 15"$ $H_2 = 18"$

All air papers are provided with canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

— If the measured vessel is he details asurement e reported.

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3/4

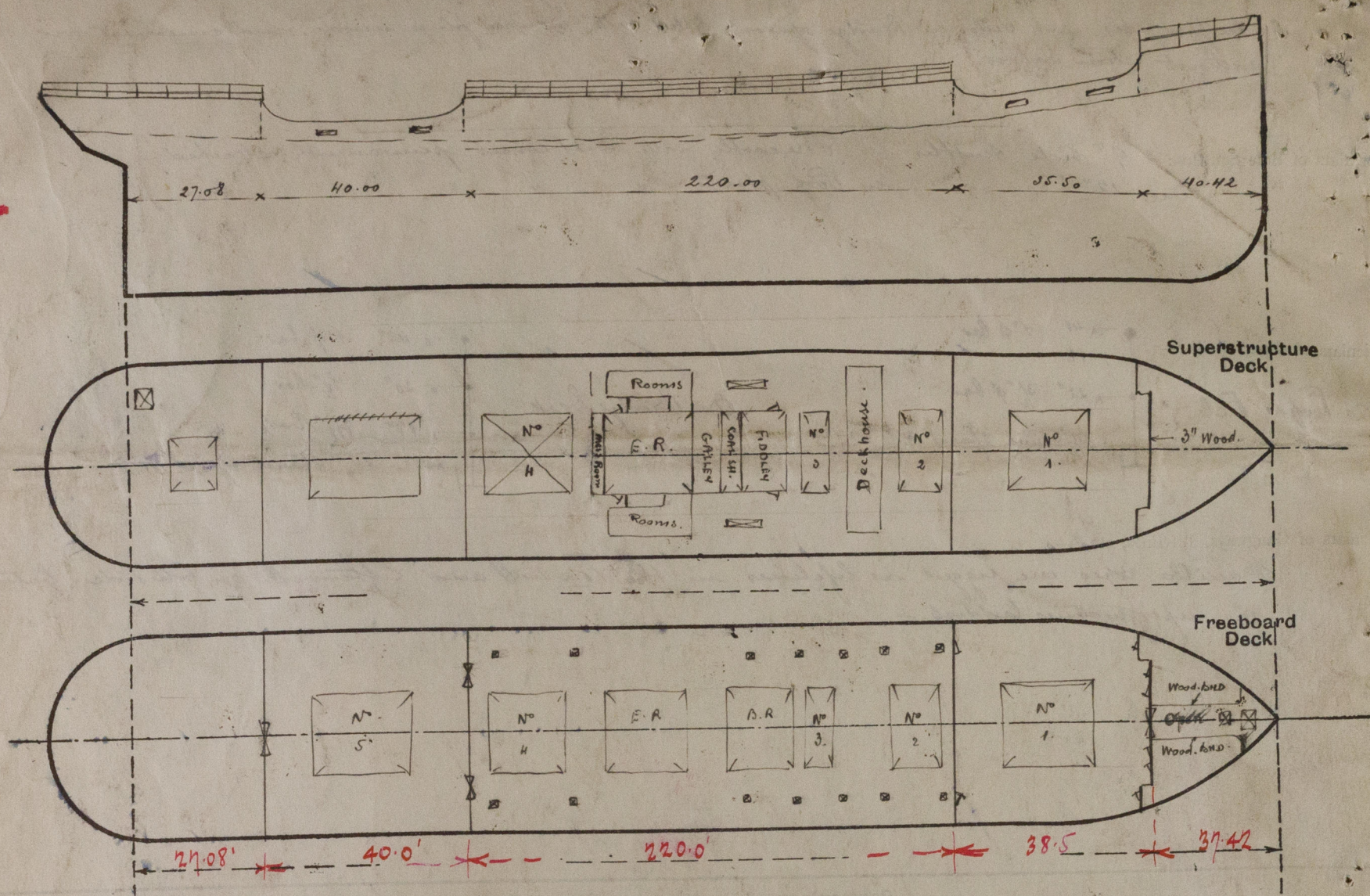
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ERM

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Graig

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:—



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

The vessel has been examined afloat and no part of the Special Survey has been carried out. The Master states the vessel will be drydocked here after discharging.

~~The coaming of the E.R. ventilator portside requires to be renewed.~~

Particulars of displacements and tons per inch have been requested from Greenock Surveyors.

The vessel will be in Antwerp, till about the 11th instant and the particulars of assigned freeboard and required alterations, if any, are requested to the earliest convenience of the Committee.

[Large handwritten signature]

[Handwritten signature]

Builder's name and yard number *R. Duncan & Co Ltd Port Glasgow*

Names of sister ships

Owners *Graig Shipping Co Ltd (J. Williams & Co Agents)*

Fee £ *Per 2,700. — 5-1-13*
Mar. Exp. 60. —

Received by me



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