

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having

Poep Bridge & Forecastle

Port of Survey

SeithBELRAVOLK

(Type of Superstructures.)

Date of Survey 29-3/32 4/4/32

Ship's Name

Nationality and Port of Registry

Official Number

Gross Tonnage

Date of Build

"LANRICK"British
Seith1420201294
12761920-
11 moName of Surveyor Chas R RowcliffeMoulded Dimensions: Length 258'-0" Breadth 35'-5" Depth (18'-6 1/2") 18'-6 1/4"Moulded displacement at moulded draught = 85 per cent. of moulded depth 2966 tonsCoefficient of fineness for use with Tables .720Particulars of Classification *100 A1

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth <u>18'-5 3/4"</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>18'-5 3/4" - 17'-2" = 1'-3 3/4"</u>	<u>+2.70</u>	Moulded Breadth (B)	<u>35'-5"</u>
Stringer plate <u>.03</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	<u>+2.70</u>	Standard Round of Beam = $\frac{B \times 12}{50}$	<u>8.52</u>
Sheathing on exposed deck				Ship's Round of Beam	<u>8.875</u>
$T \left(\frac{L-S}{L} \right) =$				Difference	<u>.355</u>
Depth for Freeboard (D) =	<u>18'-5 3/4"</u>	If restricted by superstructures		Restricted to	<u>.35 x .477 = .04</u>
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	<u>.041</u>

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poep enclosed ...	<u>29'-33"</u>	<u>29'-33"</u>	<u>7'-0"</u>		<u>29'-33"</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>70'-91"</u>	<u>75'-22"</u>	<u>7'-0"</u>		<u>75'-22"</u>
" overhang aft ...	<u>5'-75"</u>				
" overhang forward ...		<u>30'-40"</u>			<u>30'-40"</u>
F'cle enclosed <u>open</u> ...	<u>35'-0"</u>	<u>33'-62"</u>	<u>7'-0"</u>		<u>33'-62"</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...		<u>134'-95"</u>			<u>134'-95"</u>
Total ...	<u>140'-89"</u>	<u>138'-17"</u>			<u>138'-17"</u>

Standard Height of Superstructure

6'-096"

R.Q.D.

Deduction for complete superstructure

31'-8"Percentage covered $\frac{S}{L} =$ 54.64% $\frac{S_1}{L} =$ 52.31% $\frac{E}{L} =$ 53.55%

Percentage from Table, Line A.

(corrected for absence of forecastle (if required))

38.31%

Percentage from Table, Line B.

(corrected for absence of forecastle (if required))

39.65%

Interpolation for bridge less than 2L (if required)

Deduction = 31'-8" x .3831 12'-58" -12'-18"

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>35'-80"</u>	1		<u>35'-80"</u>	<u>48'-00"</u>	<u>48'-00"</u>	1		<u>48'-00"</u>
1/4 L from A.P. ...	<u>15'-93"</u>	4		<u>63'-72"</u>	<u>22'-00"</u>	<u>22'-00"</u>	4		<u>88'-00"</u>
2/4 L " ...	<u>3'-94"</u>	2		<u>7'-88"</u>	<u>5'-50"</u>	<u>5'-50"</u>	2		<u>11'-00"</u>
Amidships ...	<u>0</u>	4		<u>0</u>	<u>0</u>	<u>0</u>	4		<u>0</u>
3/4 L from F.P. ...	<u>7'-88"</u>	2		<u>15'-76"</u>	<u>8'-00"</u>	<u>8'-00"</u>	2		<u>16'-00"</u>
1/4 L " ...	<u>31'-86"</u>	4		<u>127'-44"</u>	<u>32'-50"</u>	<u>32'-50"</u>	4		<u>130'-00"</u>
F.P. ...	<u>71'-60"</u>	1		<u>71'-60"</u>	<u>72'-00"</u>	<u>72'-00"</u>	1		<u>72'-00"</u>
Total ...				<u>322'-20"</u>					<u>305'-00"</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{42.8}{18} \left(.75 - \frac{140.89}{258} \right) = -1.13$

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 = 18'-5 3/4"Summer freeboard = 2'-02"Moulded draught (d) = 16'-54"

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 4'-13" = 44"

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

 $T =$ 17.1 tons/inchDeduction = $\frac{\Delta}{40 T}$ inches17.5 tons/inch at 17'-0 draught16.85 - 11 - 2 15'-016.6 - 9 - 2 10'-0

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

22'-68" 1.36 = 1.40 1.36Depth Correction 2'-78" 18"Deduction for superstructures 12'-58"Sheer correction 1'-13"Round of Beam correction04

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

2'-70 13'-35" -10'-65"Summer Freeboard = 24'-33"

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	below	...
Winter North Atlantic Line	"	...

Tropical Fresh Water Freeboard	...
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

4 1/4"

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	N ^o 1	N ^o 2	N ^o 3	N ^o 4	Bunker Hatch on Bridge Deck	Trimming Hatch P&S on Bridge Deck	Access Hatch in Forecastle		
Dimensions of Hatchway	21'-0 1/2" x 14'-0"	26'-8 1/2" x 16'-0"	28'-8 1/2" x 16'-0"	19'-7 1/2" x 12'-0"	5'-8" x 12'-0"	3'-10" x 2'-0"	2' x 2'	3' x 2'-6"	
COAMINGS	Height above Deck	36"	Same as N ^o 1	36"	36"	36"	12"	12"	
	Thicknes { Sides	.4			Trunked.				
	Thicknes { Ends	.4							
	Stiffeners	7 x 3 x .4 BP	3-7 1/2 BP	3-7 1/2 BP	1-7 1/2 BP	nil	nil	nil	nil
	Brackets, Stays	2-7 1/2 BP	3-7 1/2 BP	3-7 1/2 BP	1-7 1/2 BP	nil	nil	nil	nil
HATCH BEAMS	Number	3	4	4	3				
	Spacing	5'-3"	5'-4"	4'-10"	4'-9"				
	Scantling and Sketch	2" x 17 x 3	Same as N ^o 1	Same as N ^o 1	Same as N ^o 1	nil	nil	nil	nil
	Bearing Surface	2" Bayonet	3"	3"	2" Bayonet				
FORE AND AFTERS	Number								
	Spacing								
	Unsupported Lengths								
	Scantling* and Sketch					nil	nil	nil	nil
	Bearing Surface								
HATCH COVERS	Material	WP	Same as N ^o 1	WP	WP	WP	WP	WP	
	Thickness	3"		3"	3"	3"	3"	3"	
	How fitted	F&A		F&A	F&A	F&A	F&A	F&A	
	Bearing Surface	3" 4 1/2"		2 1/2"	2"	2"	2"	2"	
Spacing of Cleats	24"			23"	18"	11"	24"		
Number of Tarpaulins	3			3	2	2	2		
<p>*Are wood fore and afters steel shod at all bearing surfaces? Yes</p> <p>Are battens and wedges efficient and in good condition? Yes</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? Yes</p> <p>Are lashings provided in accordance with rule requirements? Yes</p>									

Particulars of fiddle, funnel and ventilator coamings:—

Fiddle grating covered by strong steel hinged lid
Funnel & ventilator coamings in efficient condition
Engine room skylight of steel strongly constructed

Particulars of Flush Bunker Scuttles:—

Nil

Particulars of Companionways:—

On Poop Galley & companionway combined. Strong steel structure
7'-6" x 6'-0" x 6'-4" Doors 2' x 4' steel capable of being manipulated from both sides
Sills 15"

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

1 Vent on Forecastle	12" dia	Coaming 36" high x 4"
4 " in 1st Well	12" "	" " " x 3"
1 " " Aft Well	12" "	" " " x 3.5"
2 " on Bridge Deck	12" "	" " " x 4"
1 " " "	10" "	" " " x 3.5"
1 " " Poop	12" "	" " " x 3.5"
1 " " "	10" "	" " " x 3.5"
1 " " "	8 1/2" "	" " " x 3.5"

All vents built according to the rules, are in efficient condition & can be closed with wood plugs & canvas covers.

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

1 Air pipe P&S leading to DB	2 dia	54" high, in aft well
2 " " " "	2 "	42" " " "
1 " " P	"	FWT 2 " " "
2 " " P&S	"	DB 2 " " "
1 " " " "	"	4 " " "
1 " " C	"	FP 4 " " "
1 " " P	"	AP 4 " " "
1 " " P&S	"	FWT " " "

All air pipes can be closed by wood plugs permanently attached to pipes.

Particulars of Gangway Cargo and Coaling Ports:—

1 (P.S.) Cargo port in Bridge space 40" x 33" Doors & fastenings efficient
1 (P) " " " N^o 1 twin deck 17' x 15" Door & fastenings efficient

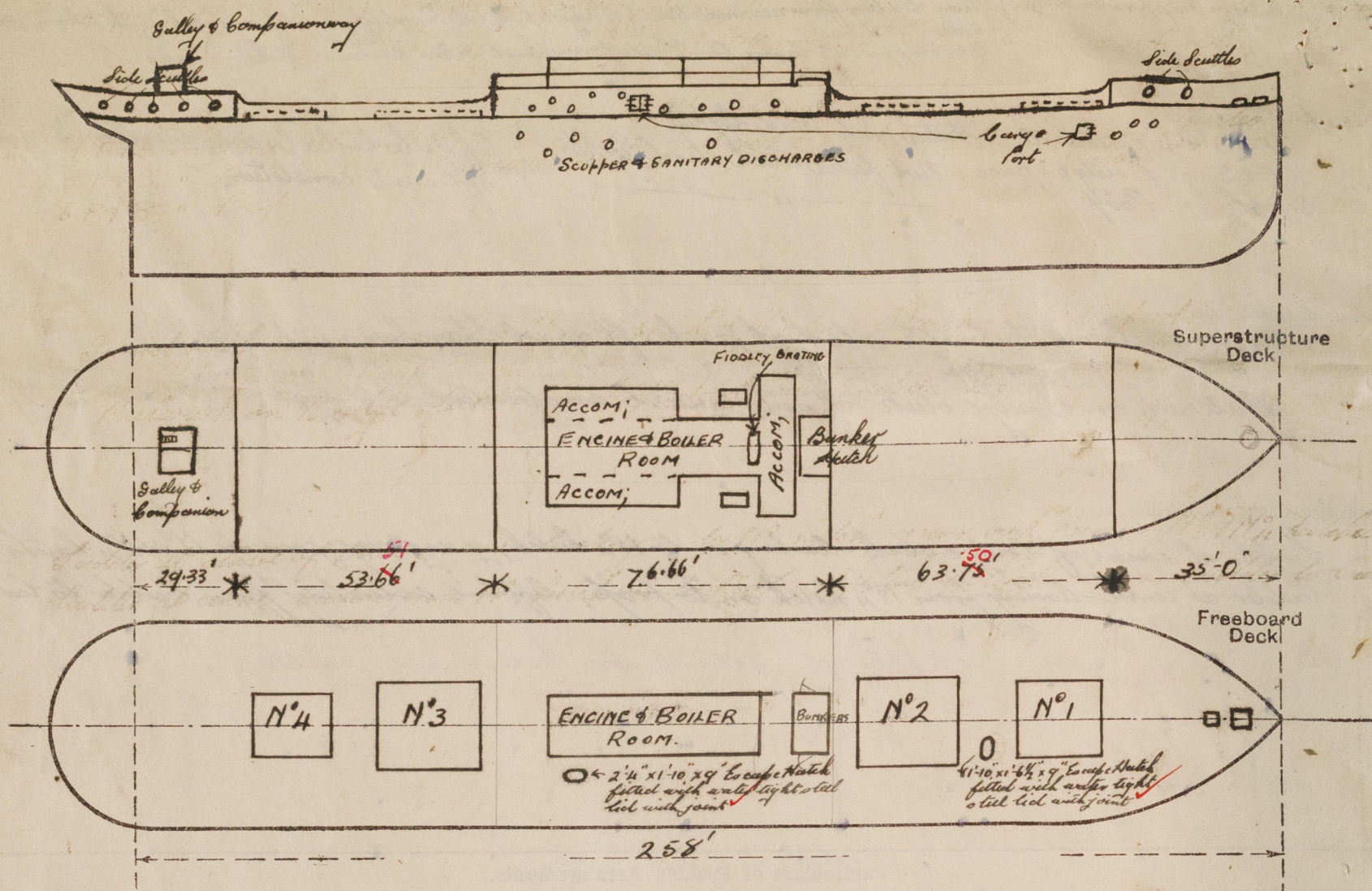


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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship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



$$\begin{aligned} \text{F.C.L.E. Vol} &= 25.8 \\ + \frac{1}{2} 9.2 &= 4.6 \\ \hline &= 30.4 \end{aligned}$$

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

$$\begin{aligned} \Delta @ .75 \Delta &= 2820 \\ \text{Coeff} &= \frac{2820 \times .995 \times 35}{258 \times 35.5 \times 18.60 \times .75} = .769 \\ \text{Tonnage Correction coefft} &= .69 \\ \text{Assume } .72 \text{ C of F.} \\ \text{OMIT.} \end{aligned}$$

Builder's name and yard number Hawthorn & Co Ltd Leith
 Names of sister ships OMIT
 Owners Geo Gibson & Sons Leith
 Fee £ 8 : 10 : 0 Received by me _____