

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having a complete superstructure deck with tonnage opening

(Type of Superstructures.)

Ship's Name DALBLAIR.	Nationality and Port of Registry BRITISH NEWCASTLE, 53.83	Official Number 149413	Gross Tonnage 4608	Date of Build 1926 & 8 Mo.
Moulded Dimensions: Length 405.0	Breadth 53.8	Depth 27.3	tons 11,130	
Moulded displacement at moulded draught = 85 per cent. of moulded depth				
Coefficient of fineness for use with Tables .771				

Port of Survey **SHANGHAI.**Date of Survey **21ST AUG 1932.**Name of Surveyor **G. H. Macdonald**Particulars of Classification **+100 A.1 with
S.S. Shl. No 31 freeboard.**

Depth for Freeboard (D)				
Moulded depth	27.25
Stringer plate03
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$				
Depth for Freeboard (D) = 27.28				

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R = (27.28 - 27.00) 3 = .84	
(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)	53.83
Standard Round of Beam = $\frac{B \times 12}{50}$	= 12.92
Ship's Round of Beam	= 13.5
Difference	.58
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	= $\frac{.58}{4} \times .0062$
	= .011

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	32.0	32.00	7.75		32.00
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	368.0	368.00	7.75		368.00
" overhang aft ...					
" overhang forward					
F'cle enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	5.0	2.50	7.75		2.50
" forward					
Total ...	405.0	402.50			402.50

Standard Height of Superstructure **7.5**

" " R.Q.D.

Deduction for complete superstructure **42.0**Percentage covered $\frac{S}{L} = 100$ " " $\frac{S_1}{L} = 99.38$ " " $\frac{E}{L} = 99.38$ Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) **99.24**Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 12L (if required)

Deduction = **41.68**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	50.50	1		50.50	50.0	52.0	1		52.00
$\frac{1}{2}$ L from A.P. ...	22.47	4		89.88	21.33	23.58	4		94.32
$\frac{2}{3}$ L " ...	5.56	2		11.12	5.32	5.83	2		11.66
Amidships ...		4					4		
$\frac{2}{3}$ L from F.P. ...	11.12	2		22.24	7.19	12.76	2		25.52
$\frac{1}{2}$ L " ...	44.94	4		179.76	28.84	51.62	4		206.48
F.P. ...	100.00	1		100.00	66.0	116.00	1		116.00
Total ...				454.50					506.98

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{52.48}{18} \left(\frac{75-50}{2} \right) = -.73$

If limited on account of midship superstructure.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = **27.28**

Summer freeboard = **3.02**

Moulded draught (d) = **24.26**

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = **6.04**

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 11,775$

Tons per inch immersion at summer load water line

 $T = 43.36$ Deduction = $\frac{\Delta}{40T}$ inches= **6.79****6 $\frac{3}{4}$**

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... **.84**

Deduction for superstructures ... **41.68**

Sheer correction ... **.73**

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

Summer Freeboard = **36.37**

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

Tropical Fresh Water Line above Centre of Disc ...	12 $\frac{3}{4}$
Fresh Water Line " " ...	6 $\frac{3}{4}$
Tropical Line " " ...	6
Winter Line below " " ...	6
Winter North Atlantic Line " " ...	

Tropical Fresh Water Freeboard ...

Fresh Water " ...

Tropical " ...

Winter " ...

Winter North Atlantic " ...

3'-0 $\frac{1}{4}$ "**1'-11 $\frac{1}{2}$ "****2'-5 $\frac{1}{2}$ "****2'-6 $\frac{1}{4}$ "****3'-6 $\frac{1}{4}$ "**RECEIVED
1-AUG 1935

84 APR 1935

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway	1	2	3	4	5	6	1	2	3 & 6	4	5
Dimensions of Hatchway	27'0" x 21'0"	30'0" x 21'0"	12'6" x 21'0"	20'10'0" x 8'0"	32'6" x 21'0"	22'6" x 21'0"	24'9" x 21'	30'0" x 21'0"	22'6" x 21'0"	10'0" x 21'0"	32'6"
COAMINGS	Height above Deck	9 x 3 B.A.	D ^o	D ^o	10'2" x 7/20	9 x 3 B.A.	D ^o	D ^o	D ^o	30"	30"
	Thickness									44	44
	Sides									44	44
	Stiffeners									NIL	7 x 3/16
HATCH BEAMS	Brackets, Stays										30'2"
	Number	4	5	1	5	3	4	5	3	1	5
	Spacing	5'5"	5'0"	6'3" 5'0"	5'5"	5'7 1/2"	5'5"	5'0"	5'7 1/2"	5'0"	5'5"
	Scantling and Sketch	4-4 x 3 x 7/20	4-4 x 3 x 7/20	4-4 x 3 x 7/20	NIL	4-4 x 3 x 7/20	4-4 x 3 x 7/20	4-4 x 3 x 7/20	D ^o	D ^o	D ^o
FORE AND AFTERS	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"
	Number										
	Spacing										
	Unsupported Lengths										
HATCH COVERS	Scantling* and Sketch										
	Bearing Surface										
	Material	PINE	D ^o	D ^o	STEEL 4'5" SUPPLY	D ^o	D ^o	PINE	D ^o	D ^o	D ^o
	Thickness	2 1/2"			2-7' B.O.S.			2 1/2"			
HATCH COVERS	How fitted	F & A.						F & A.			
	Bearing Surface	3"						3"			
	Spacing of Cleats	2'0"	D ^o	D ^o	D ^o	D ^o	D ^o	2'0"	D ^o	D ^o	D ^o
	Number of Tarpaulins	2						3			
<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 GRATINGS 1@ 7'9" x 4'3", 2@ 10'6" x 2'6", & 1@ 13'0" x 2'10", COAMING BARS 2 1/2" x 2 1/2" x 1/4" ALL FITTED WITH 1/8" STEEL HINGED COVER PLATES, SECURED WITH CLIP HANDLES.

FUNNEL COAMING 20 1/2" x 1/4".
COAMINGS.

Particulars of Flush Bunker Scuttles:— There are no flush bunker scuttles in the hull. There is no provision for fitting uprights or lashing. There are no suitable eye plates or lashing plates. There are no rollers through the hull.

Particulars of Companionways:— To Crew space aft. 1/4" plating; Teak door. 3'6" x 2'0" x 1 1/2" Thick, with 1'6" above deck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 1@ 3'0" High x 18" dia x 3/8" th. To Hold.
 1-8" " x 24" " " " On Mast Louvers.
 2-6" " x 18" " " " TO Hold.
 " " x 15" " x 5/16" " Bunkers.
 2" " x 12" " x 1/4" " "
 2@ 2'6" High x 12" dia x 3/8" th To Keel plank.
 1" " " " " " 5/16" " Tween Dk.
 2" " " " " " x 9" " x 1/4" " Store room.
 5" " " " " " x 3/16" " Crew aft.
 4" 2-3 " " x 6" " " " " "
 4 Funnel, 14" High x 10" dia x 1/2" to Crew aft.

Note:— Plugs & canvas covers for all vents & stove funnel coamings are on board & all are in good condition.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 Fore Peak 1@ 2 1/2" dia x 24" High
 No 1 Lark 4" 2" " " " "
 " 2" 4" 3" " " " "
 No 2 " 2-1 1/2" " " " "
 No 3 " 2" 2" " " " "
 " 2" 2" " " " " x 29" Air filling
 No 4 Lark 4@ 3" dia, 2@ 31" High x 2@ 24"
 " 5" 4" 2 1/2" " x 23" High
 " 6" 2" " " " "
 aft Peak 1" " " " " "

Note:— New canvas covers are on board for all air pipes.

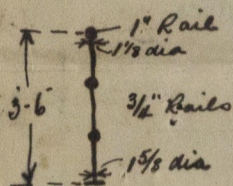
Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes — 4 @ 4" dia from Freeboard Deck, each fitted with storm having brass flap, outlet 21" below Freeboard Deck, 7 on Port & Starboard sides. One each side in Tonnage Well, 2 1/2" dia, outlet 21" below deck, no valve fitted. Hard wood plugs provided for all lower deck scuppers. Sanitary Discharges, 1 each from Capt & Officers 2" dia, C.I. storm valve with brass flap, outlet 2'-0" above Freeboard Dk, also Aft from Hospital & Crews WCs, 4" dia, with brass flaps, Port & Starboard sides. From Capt's bath also from Eng's bath 2" storm valves with brass flaps, outlet 2'-0" above Freeboard Dk. Drain thro's hell from crew's wash rooms, Port & Starboard sides 1" dia & 3" above Freeboard Dk, no valve fitted. ~~but screwed plugs provided at inner ends~~

Particulars of Side Scuttles:

In Crew Space Aft. 6 Port & 5 Starboard, 10" clear glass lights, each fitted with Cast-Iron leadlight, & similar into store room in counter.

Particulars of Guard Rails:—



Guard rails fitted from fore end to Saloon House & from after end of sidelounges to stern. Rail stanchions fitted 5'-0" apart.

Particulars of Gangways, Lifelines, etc.:—

NIL.

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 AMIDSHIPS	88'-0"	3'-5"	3'-6" x 1'-6"	1		
Forward Well Tonnage opening	5'-0"	3'-6" 4'-9"	2'-0" x 1'-1"	✓	2.24	✓

State position of each freeing port ... } After Well:—
(F. and A. position and height above deck edge) } Forward Well:—
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 @ 1" DIA. ROD.
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 ...	—	1/20	3" flange	3'-0"	—	—	—	7'-9"
TONNAGE OPENING	—	"	"	"	—	5'-0" x 3'-0"	1'-3"	"
Raised Quarter Deck Bulkhead ...	—	"	"	"	—	—	—	—
Bridge, After Bulkhead ...	—	"	"	"	—	—	—	—
Bridge, Forward Bulkhead ...	—	"	"	"	—	—	—	—
Forecastle Bulkhead ...	—	5/16	5 1/2" x 3" J	1'-9"	LUGS.	—	—	—
Trunk, Aft ...	—	—	—	—	—	—	—	—
Trunk, Forward ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	—	—	—	—	—	—	—	—
Exposed Machinery Casings on Superstructure Decks ...	3'-9" x 3/8	5/16	3" x 3" x 5/16	2'-6"	1	4'-10" x 1'-10"	1'-6"	7'-6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	3'-0" x 5/16	1/4	"	"	—	5'-0" x 2'-3"	1'-3"	7'-9"
Deckhouses on Flush Deck Ships ...	3'-9"	1/4	3" x 2 1/2" x 1/4	4'-0"	—	5'-0" x 2'-0"	"	7'-6"

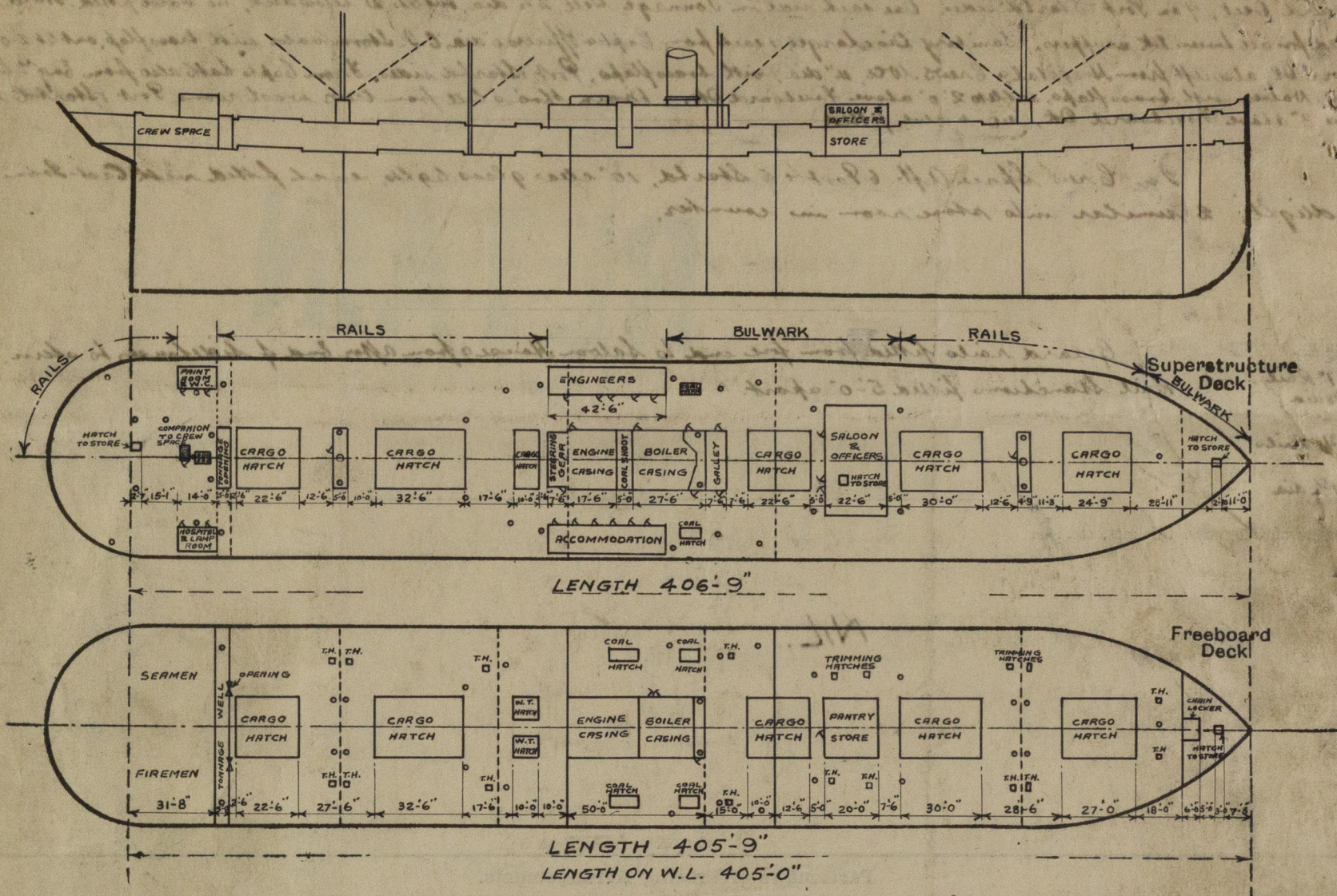
Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Forward Bulkhead	TONNAGE OPENING	2 Openings 5'-0" x 3'-0", fitting with 2 1/2" wood lifting boards in channels.
Aft Bulkhead	"	no openings.
Raised Quarter Deck Bulkhead	"	no openings.
Bridge, After Bulkhead	"	
Bridge, Forward Bulkhead	"	
Forecastle Bulkhead	"	
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	"	2 steel doors 1 1/2" thick.
Exposed Machinery Casings on Superstructure Decks	"	2 steel doors 3/8" thick capable being securely closed.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	"	5'-0" x 2'-3" 20 fiducy steel door 1/4 th. Lock on inside, opens from both sides.
Deckhouses on Flush Deck Ships	"	Heak Doors 1 1/2" thick to accommodation.

1510-788M 1/2

Talblair

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:—



Bunker Hatchway casing top $5'-5\frac{1}{2}'' \times 2'-2\frac{1}{2}''$ beam $3\frac{1}{2}'' \times 3\frac{1}{2}''$ covers $2\frac{1}{2}''$ beam surface 3
spacing plating $25\frac{1}{2}''$ 1" tarpaulins 3, efficient battening arrangements

Bunker hatchways on freeboard deck 1 P.T.S. $3'-6\frac{1}{4}'' \times 7'-7''$ + 1 P.T.S. $3'-6'' \times 10'-0''$ beam $9\frac{1}{2}'' \times 4\frac{1}{2}''$ hatch covers $2\frac{1}{2}''$
beam surface 3" spacing plating $25''$. 2 tarpaulins, efficient battening arrangements

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

Shelter Deck, Increased stir at fore end, Tween Deck Light at Stem = $12'-0''$

Bunker Hatches on Shelter Deck, $4'-6'' \times 3'-6'' \times 30\frac{1}{2}''$ casing, $\frac{1}{2}''$ H. Bearing surface $3'' \times 2\frac{1}{2}''$ pine covers, clats 20, 2 tarpaulins

Trimming " " Foreward " $2'-3'' \times 2'-0'' \times 9'' \times 3''$ L. $2\frac{1}{2}''$ lined covers, secured with 4 lined bolts with butterfly nuts.

After the hatchway on Shelter Deck $2'-6'' \times 9'-6\frac{1}{2}''$ beam $11'' \times 4\frac{1}{2}''$ covers $2\frac{1}{2}''$ beam surface $2\frac{1}{2}''$ clats 19, 2 tarpaulins, eff. battening arrangements

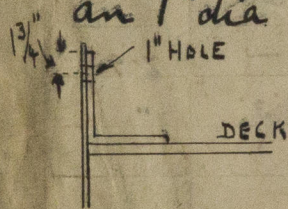
The Captain requested that particular be taken for timber marks

There is no provision for fitting uprights

bye plates for lashings. Where no suitable eye plate is riveted to stringer plate, then

an 1" dia hole has been drilled through sheer Stroke, and deck Stringer Bar.

bye plates & holes in rail do not exceed $10'-0''$ spacing.



Builder's name and yard number *Scotts Shipbuilding & Engineering Co Ltd.*

Names of sister ships

Owners *United Steam Navigation Co Ltd, Newcastle-on-Tyne.*

Fee $\pounds 120^{00}$

Received by me

2nd Survey $\pounds 60^{00}$
Traveling exp $\pounds 4^{00}$



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