

Rpt. C.11.

WRECK SECTION

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

 Lis. Rpt. No. 101163
 Index No. 33018
 (For London Office only.)

7 OCT 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
 having *Shelter deck with Tonnage opening aft*
 (Type of Superstructures.)

Port of Survey *Liverpool*

Date of Survey *Oct 1932*

Name of Surveyor *R.R. Ruthven*

Particulars of Classification *100 A.1*

Ship's Name **LANGLEECRAG**

Nationality and Port of Official Number *Burish Newcastle* **161528** Gross Tonnage **4909** Date of Build *1929-7m.*

Moulded Dimensions: Length *LWL 415.0* Breadth **55.5** Depth **28.25**
 Moulded displacement at moulded draught = 85 per cent. of moulded depth **12080** tons
 Coefficient of fineness for use with Tables **.764**

Depth for Freeboard (D)

Moulded depth ... **28.25**
 Stringer plate ... **.03**
 Sheathing on exposed deck *3" in shelter aft*
 $T \left(\frac{L-S}{L} \right) =$
 Depth for Freeboard (D) = **28.28**

Depth correction

(a) Where D is greater than Table depth
 (D - Table depth) R = **(28.28 - 27.67) 3 = + 1.83**

(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) **55.5**
 Standard Round of Beam = $\frac{B \times 12}{50} = \frac{13.32}{50} = \frac{133}{4}$
 Ship's Round of Beam = **43**
 Difference **43**
 Restricted to **43**
 Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{43}{4} \left(1 - \frac{99.36}{415} \right) = 4.3 \left(1 - .24 \right) = 3.2$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	30.0	30.00	8.9	-	30.00
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	379.75	379.75	8.9	-	379.75
" overhang aft ...					
" overhang forward					
Fore enclosed ...					
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	5.25	2.63	8.9	-	2.63
" " forward					
Total ...	415.00	412.38			412.38

Standard Height of Superstructure **7.5**

" " R.Q.D. **42**

Deduction for complete superstructure

Percentage covered $\frac{S}{L} = \frac{100}{415} = 99.36$

" " $\frac{S_1}{L} = \frac{99.36}{415} = 99.36$

" " $\frac{E}{L} = \frac{99.36}{415} = 99.36$

Percentage from Table, Line A. **99.21**
 (corrected for absence of forecastle (if required))

Percentage from Table, Line B. **99.21**
 (corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = **42 x .9921 = 41.67**

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	51.50	1	51.50	40.75	42.00	57.00	1	57.00	57.00
$\frac{1}{2}$ L from A.P. ...	22.92	4	91.68	14.0	18.56	25.36	4	101.44	101.44
$\frac{2}{3}$ L " ...	5.67	2	11.34	2.25	4.64	6.27	2	12.54	12.54
Amidships ...		4					4		
$\frac{2}{3}$ L from F.P. ...	11.33	2	22.66	9.75	10.56	12.21	2	24.42	24.42
$\frac{1}{2}$ L " ...	45.84	4	183.36	39.0	42.26	49.40	4	197.60	197.60
F.P. ...	103.00	1	103.00	103.25	96.00	111.00	1	111.00	111.00
Total ...			463.54					504.00	

 Mean actual sheer aft = *gross*
 Mean standard sheer aft = *gross*

 Mean actual sheer forward = *gross*
 Mean standard sheer forward = *gross*

 Length of enclosed superstructure forward of amidships = *gross*
 " " aft of " = *gross*

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{40.46}{18} \left(\frac{75-50}{2} \right) = - .56$$

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 = **28.28**
 Summer freeboard = **3.38**
 Moulded draught (d) = **24.90**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $\frac{24.90}{4} = 6.22 = 6\frac{1}{4}$
 Addition for Winter North Atlantic Freeboard (if required) = **✓**

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$$\Delta = 12670$$

Tons per inch immersion at summer load water line

$$T = 46.38$$

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

$$= \frac{12670}{40 \times 46.38} = 6.83$$

$$= 6\frac{3}{4}$$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$$\frac{764 + 680}{1.36} = \frac{1444}{1.36}$$

Depth Correction ... **1.83**
 Deduction for superstructures ... **41.67**
 Sheer correction ... **.56**
 Round of Beam correction ... **-**
 Correction for Thickness of Deck amidships ... **-**
 Other corrections, scantlings, etc. ... **-**

 Summer Freeboard = **40.50**

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

Tropical Fresh Water Line above Centre of Disc ...	13	Tropical Fresh Water Freeboard ...	2-3 1/2
Fresh Water Line " " ...	6 3/4	Fresh Water " " ...	2-9 3/4
Tropical Line " " ...	6 1/4	Tropical " " ...	2-10 1/4
Winter Line below " " ...	6 1/4	Winter " " ...	3-10 3/4
Winter North Atlantic Line " " ...	✓	Winter North Atlantic " " ...	✓

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Particulars of Scuppers and Sanitary Discharge Pipes :—

Sanitary discharge pipes fitted with storm valves, about 12" above LHD deck from spaces in shelter SK
 Soupier pipes from Bridge & Vele Turn SKS & Tonnage space aft 3 1/2" dia, fitted with storm valves abt 18" below LHD SK.
 " " " Refrigerating & cooling chamber aft 2" dia not fitted with scrubbers caps - 18 -

Particulars of Side Scuttles :—

Sicks Scuttles in Prop. Town BKS. aft store fitted with deadlights
 " " " " Crews quarters " "
 " " " " Town deck forward store fitted with "

Particulars of Guard Rails :—

Guard rails on shelter deck, forward & aft 42" high, 3 rails, stanchions spaced about 55" apart.
Steel bulwark $\frac{1}{2}$ ft. fore end of breakwater 42" "

iculars of Gangways, Lifelines, etc. :—

Zone

Particulars of Freeing Arrangements.

	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
Starboard Well						
Port Well						

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:—

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

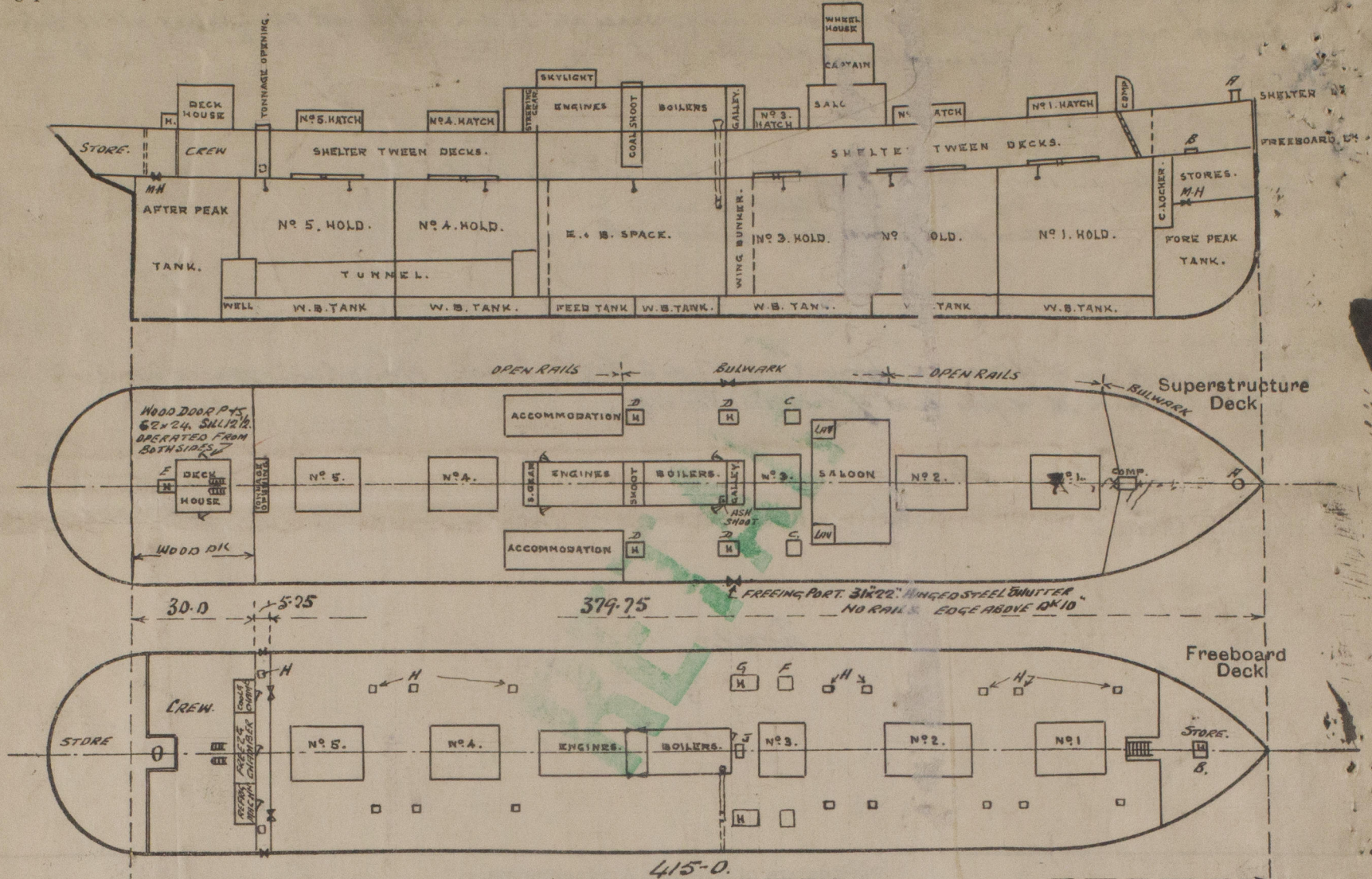
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Coop Bulkhead	✓	vertical plating .26	3" flanges	30	✓	✓	✓	8-9
Raised Quarter Deck Bulkhead ...	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Bridge, After Bulkhead	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Bridge, Forward Bulkhead	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Forecastle Bulkhead	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Trunk, Aft	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Trunk, Forward	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Exposed Machinery Casings on Superstructure Decks	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9
Deckhouses on Flush Deck Ships ...	✓	vertical plating .26	3" flanges	34	✓	61 x 49	18	8-9

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

Poop Bulkhead	...	...	✓	1 hinged steel door, 2 hinged wood doors.
Raised Quarter Deck Bulkhead	...	...	✓
Bridge, After Bulkhead	...	...	✓	Openings Channels + Boards 3" thick full height
Bridge, Forward Bulkhead	...	...	✓
Forecastle Bulkhead	...	...	✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...	...	✓
Exposed Machinery Casings on Superstructure Decks	...	...	✓	hinged steel doors, operated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓	hinged steel door at fore end Boiler casing chips on inside
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, 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:—



- A: Circular Hatch, shelter 8x12 1/2" dia. 21" laming x 32. steel cover 32. fitted with hinged toggle butterfly nuts. rubber jointed
- B: Hatch on 4th deck in fore hold 3-8x4-0. laming 12x32 B.A. w.w. covers 2 1/2" Thwart Bearing 3 Cleats 20 apart. Locking bar. 2. Tarpanlino
- C: Coaling hatches, shelter 8x4 5-0x4-0 laming 30x38 w.w. covers Thwart Bearing 3 1/2 Cleats 24" apart 2. Tarpanlino
- D: Hatch aft. shelter 8x4 3-6x4-0 laming 32x38 w.w. covers 2 3/4 Thwart Bearing 2. Locking bar. Cleats 24" apart 2. Tarpanlino

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

Freeing port. P.T.S in Tonnage space aft 28 x 28. Silt 12" flat iron cleat on hinges steel shutter



Tonnage Hatch aft, shelter 8x5-3x14-0. laming 9x3 B.A. w.w. covers 2 3/4 Thwart Bearing 3 Two cleats, two Tarpanlino

F: Coal hatches on 4th deck 5-0x4-0 laming 9x32 B.A. w.w. covers 2 3/4 Thwart Bearing 3 Cleats 24" apart 2. Tarpanlino

H: Escape hatch on 4th deck 2-0x2-0 laming 9x32 B.A. steel cover, rubber jointed hinged toggle with butterfly nuts. I: 4-6x2-6; other details similar to escape hatch

Manholes to fore & aft peak tanks, fitted with bolted & jointed steel plate cover.

Ash shoot, start from about 2-6 above shelter deck, led down to ship's side, about 6-0 below 4th deck. 18x18 sq. channels & plates

	DRAFTS.	WEIGHT PER TON	PER INCH
LOAD	24-11 3/8	9230	46.36
	24-0	8710	46.14
	23-0	8150	45.90
	22-0	7610	45.65
	21-0	7060	45.39
	15-0		42.98
	10-0		42.48
	7-0		41.20

Light draft 7-6 3/4"

Survey when vessel afloat for freeboard assignments only.

Builder's name and yard number Messrs Palmers & Co Ltd Newcastle N° 991

Names of sister ships LANGLEETARN. N° 992

Owners Medway Steam Shipping Co Ltd

Fee £ 12 : 15 : 0

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