

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD. No 12663.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having COMPLETE SUPERSTRUCTURE WITH TONNAGE OPENING

Port of Survey AVONMOUTH

(Type of Superstructures.)

Date of Survey APRIL 1932

Ship's Name: S.S. "LINDENBANK"
 Nationality and Port of Registry: BRITISH BELFAST
 Official Number: 161,856
 Gross Tonnage: 5,054
 Date of Build: 1930

Name of Surveyor D. TURNER

Moulded Dimensions: Length 420.0' Breadth 56.6' Depth 36.25' to 55.05'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 12684 tons

Coefficient of fineness for use with Tables .952

Particulars of Classification + 100 A.1.

WITH FREEBOARD

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	29.28	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	56.6"
Stringer plate	.50	(29.32 - 28.00) x 3 = +3.96		Standard Round of Beam = $\frac{B \times 12}{50}$	13.56"
Sheathing on exposed deck	2.25	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13.2"
T $\left(\frac{L-S}{L}\right)$				Difference	.06
Depth for Freeboard (D) =	29.32	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L}\right)$	$\frac{.06}{4} \times .001 = \text{NIL}$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	36.3	36.30	10'-0"		36.30	Standard Height of Superstructure 7.50
overhang						R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure 42.00
overhang						Percentage covered $\frac{S}{L} = 100.00$
Bridge enclosed	344.4	344.40	4'-0" min		365.11	$\frac{S_1}{L} = 99.29$
overhang aft			+3" sheathing x 7.50			$\frac{E}{L} = 96.22$
overhang forward						Percentage from Table, Line A. 95.35
Forecastle enclosed						(corrected for absence of forecastle (if required))
overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft	6.0	3.00			3.00	Deduction = 42.00 x .9535 = -40.05
forward						
Total	420.00	414.00			404.41	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P.	52.00	1		52.00	15	61.00	1		61.00	Mean actual sheer aft = Excess
1/4 L from A.P.	23.14	4		92.56	5	24.14	4		108.56	Mean actual sheer forward = Excess
1/2 L	5.42	2		11.44		6.41	2		13.42	
Amidships		4			0		4			Length of enclosed superstructure forward of amidships = C.S.S.
3/4 L from F.P.	11.44	2		22.88	0	11.55	2		23.10	
1/4 L	46.28	4		185.12	23	46.43	4		186.92	
F.P.	104.00	1		104.00	26	105.00	1		105.00	
Total				468.00					498.00	

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(\frac{75 - S}{2L} \right) = \frac{30.00}{18} \times \left(\frac{75 - 50}{2} \right) = -4.2$$

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 = 29.32
 Summer freeboard = 3.79
 Moulded draught (d) = 25.53

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 6.38 = 6 1/2"

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 13128$
 Tons per inch immersion at summer load water line

T = 44.5

Deduction = $\frac{\Delta}{40T}$ inches
 = 6.91 = 7"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction	3.96	
Deduction for superstructures		40.05
Sheer correction		42
Round of Beam correction		
Correction for Thickness of Deck amidships		
Other corrections, scantlings, etc.		
	3.96	40.47

Summer Freeboard = 45.41

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

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

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway		HATCHWAYS									
		UPPER DECK HATCHWAYS					UPPER DECK HATCHWAYS				
		Nº 1.	Nº 2.	Nº 3.	Nº 4.	Nº 5.	Nº 1.	Nº 2.	Nº 3.	Nº 4.	Nº 5.
Dimensions of Hatchway		27'0" x 20'0"	30'0" x 20'0"	27'0" x 20'0"	33'0" x 20'0"	30'0" x 20'0"	27'0" x 20'0"	30'0" x 20'0"	27'0" x 20'0"	31'0" x 20'0"	30'0" x 20'0"
COAMINGS	Height above Deck	33"	33"	33"	33"	33"	9" B.A.	9" B.A.	9" B.A.	9" B.A.	9" B.A.
	Thickness	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
	Sides	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
	Ends	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"	4 1/4"
Stiffeners		7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES	7 B.A. AT SIDES
Brackets, Stays		6 END. AFT	6 END. AFT	6 END. AFT	6 END. AFT	6 END. AFT	NONE	NONE	NONE	NONE	NONE
Number		5	5	5	5	5	5	5	3 & 8 NO.	3	5
Spacing		4' 6"	5' 0"	4' 6"	5' 6"	5' 0"	4' 6"	5' 0"	2 SPACES 6' 0"	3	5' 0"
Unsupported Lengths											
Scantling* and Sketch											
Bearing Surface		3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS
Material		W. PINE	W. PINE	W. PINE	W. PINE	W. PINE	W. PINE	W. PINE	W. PINE	W. PINE	W. PINE
Thickness		2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"	2 3/4"
How fitted		FORE & AFT	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.	F. & A.
Bearing Surface		3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS	3" ON ENDS
Spacing of Cleats		24"	24"	24"	24"	24"	24"	24"	24"	24"	24"
Number of Tarpaulins		3	3	3	3	3	2	2	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>											
<p>NOTE: In addition to above hatchways, there are 2 Deep Tank hatches each 8'0" x 8'0" with 12" x 50L coamings and stiffened plate covers.</p>											

Particulars of fiddle, funnel and ventilator coamings:—

STAKEHOLD GRATINGS COVERED BY STRONG STEEL HINGED COVERS.

FIDDLEY & FUNNEL VENTILATORS IN GOOD CONDITION.

ENGINE ROOM SKYLIGHT OF STEEL STRONGLY CONSTRUCTED.

Particulars of Flush Bunker Scuttles:—

NONE.

Particulars of Companionways:—

NONE.

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

1 VENT ON S.S. DECK. 9" DIA. COAMING 36" x 25" LED TO FORE PEAK.

14 " S " " " 24" " " 6' 9" x 40" " " T.M. DECK & HOLD.

2 " " " " 9" " " 7' 9" x 16" " " STEWARDS' STORE.

2 " " " " 12" " " 5' 6" x 30" " " RESERVE HOLD. (Nº 3).

2 " " " " 12" " " 4' 0" x 16" " " DEEP TANKS.

2 " " " " 25" " " Derrick Posts.

2 " " " " 12" " " COAMINGS 36" x 16" " " INTACT POOP.

2 VENTS ON S.S. DECK. 14" DIA. COAMINGS 36" x 16" LED TO INTACT POOP.

3 " " " " 12" x 4" " " 18" x 3/8" " " " "

2 " " " " 6" x 4" " " 26" " " " " "

4 " " " " 12" x 4" " " 18" x 3/8" " " T.O. BKR.

NOTE! All vents constructed in accordance with the Rules & coaming closed with with wood plugs & canvas covers.

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

1 M.S. AIR PIPE ON S.S. DECK. 24" HIGH x 3" DIA. FROM FORE PEAK.

16 " " " " 24" " x 2 1/2" " " DOUBLE BOTTOM TANKS.

1 " " " " 24" " x 4" " " " " " "

2 " " " " 24" " x 4" " " A.P. TANK.

2 " " " " 24" " x 2 1/2" " " F.W. TANKS ON 2ND DECK.

NOTE! All Air pipes closed with plugs and/or canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

NONE.



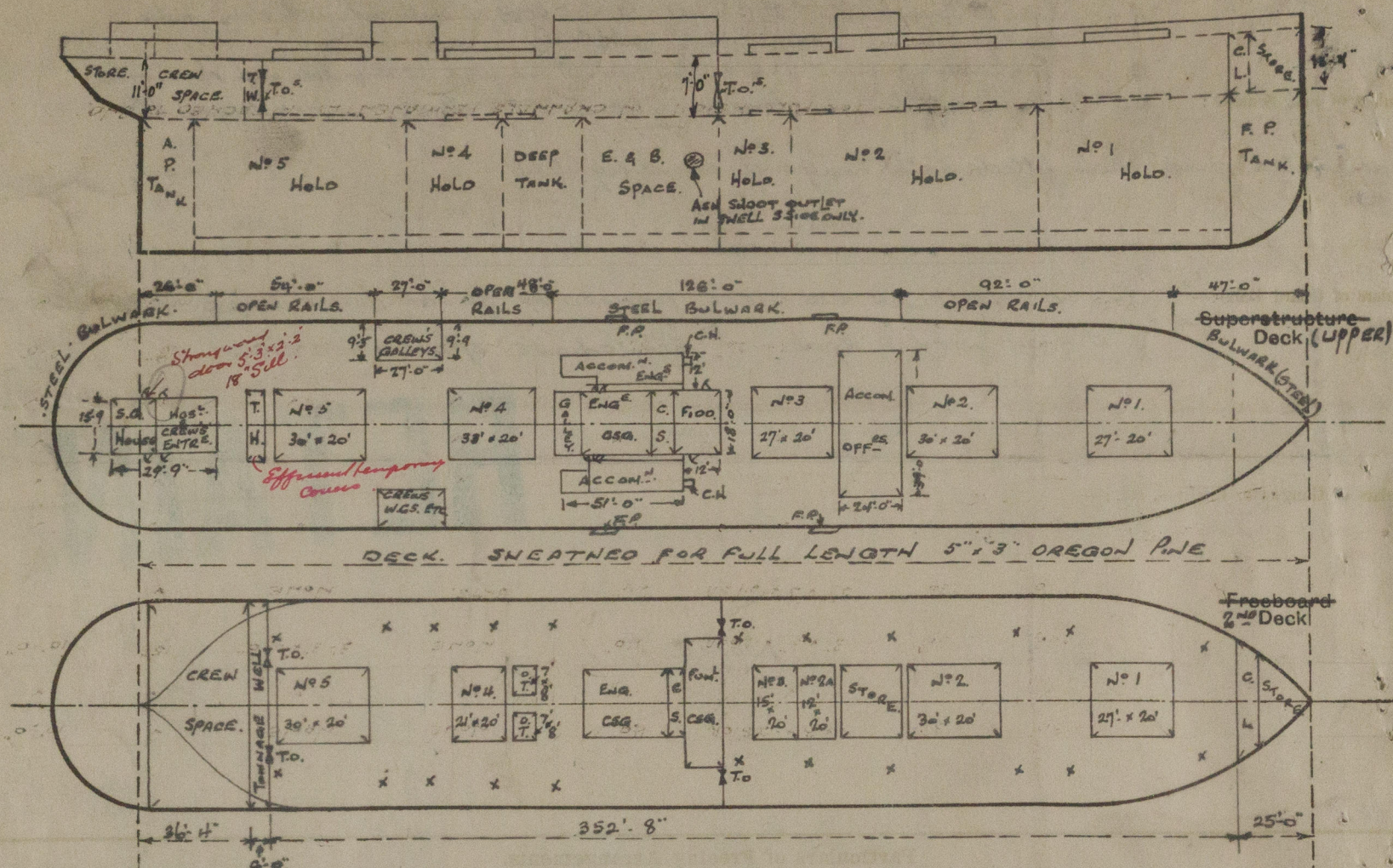
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Lindenbank.

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:—



"x" = weatherlight steel hatch covers with hinged covers 24" x 24" x 9" x 3 1/2" x 50 B.A. Ang.

Centre Line steel bulkheads fitted in Holds. ✓

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

Builder's name and yard number: WORKMAN CLARK (1928) LTD. BELFAST YARD No. 509.

Names of sister ships: DEEBANK, TRENTBANK & FORTHBANK.

Owners: BANK LINE LTD. (A. WEIR & CO. MGRS.)

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