

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name **"LINGULA"** Official Number **181594** Nationality and Port of Registry **BRITISH LONDON** Gross Tonnage **5516** Date of Build **1946**

Port of Survey **Belfast**

Date of Survey **During construction**

Surveyor's Signature **A. Davison**

Moulded Dimensions: Length **426.0'** Breadth **54.25'** Depth **31.00'**  
*In centre of keel at stern*

Moulded displacement at moulded draught = 85 per cent. of moulded depth **13430** tons

Coefficient of fineness for use with Tables **.772**

Particulars of Classification **+100 A.1.**  
**"Carrying Petroleum in Bulk"**  
**(as contemplated)**

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	31.00	(a) Where D is greater than Table depth (D-Table depth) R = $(31.05 - 28.40) \times 3 = +7.95$		Moulded Breadth (B)	54.25
Stringer plate	63.75	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =		Standard Round of Beam = $\frac{B \times 12}{50} =$	13.02
Sheathing on exposed deck				Ship's Round of Beam	13 1/2" = 13.50
T $\left(\frac{L-S}{L}\right) =$				Difference	.48
Depth for Freeboard (D) =	31.05	If restricted by superstructures		Restricted to	
				Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L}\right) =$	$\frac{.48}{4} \times .532 = -.07$

DEDUCTION FOR SUPERSTRUCTURES.					
	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>equivalent</i>	90.75	90.75	8.0	-	90.75
" overhang					
R.Q.D. enclosed					
" overhang					
Bridge enclosed <i>equivalent</i>	46.41	46.41	7.5	-	46.41
" overhang aft	7.94	5.96			5.96
" overhang forward					
Fore enclosed	47.75	47.75	7.5	-	47.75
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total	192.85	190.87			190.87

Standard Height of Superstructure **7.5**

" " R.Q.D. **✓**

Deduction for complete superstructure **42**

Percentage covered  $\frac{S}{L} =$  **45.27**

" "  $\frac{S_1}{L} =$  **44.80**

" "  $\frac{E}{L} =$  **35.80**

Percentage from Table, Line A. Tanker **35.80**  
(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 = **42 × 35.80 = -15.04**

SHEER CORRECTION.							
Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P.	52.60	1	52.60	54.0	54.0	1	54.0
1/4 L from A.P.	23.41	4	93.64	23.9	95.6	4	382.4
2/4 L	11.58	2	23.16	6.2	12.4	2	24.8
Amidships	0	4	0	0	0	4	0
3/4 L from F.P.	11.57	2	23.14	11.5	23.0	2	23.0
1/4 L	47.9	4	187.28	47.9	191.6	4	778.4
F.P.	105.20	1	105.20	105.0	105.0	1	105.0
Total			473.44				481.6

Mean actual sheer aft = **54.0**  
Mean standard sheer aft = **54.0**

Mean actual sheer forward = **12.4**  
Mean standard sheer forward = **12.4**

Length of enclosed superstructure forward of amidships = **L**  
aft of amidships = **L**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{.2L} \right) = \frac{8.16 - (.75 \times 22.68)}{18} = -.24$   
If limited on account of midship superstructure.

If limited to maximum allowance of 1 1/2 ins. per 100 ft.

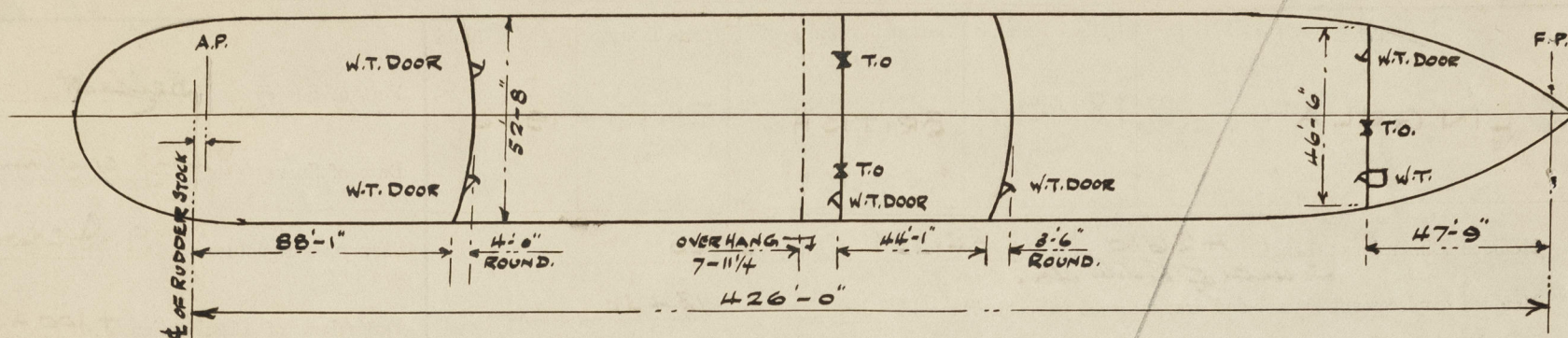
Deduction for Tropical Freeboard.		Deduction for Fresh Water.		TABULAR FREEBOARD corrected for Flush Deck (if required)	
Addition for Winter and Winter North Atlantic Freeboard.		Displacement in salt water at summer load water line	$\Delta = 13007$	Correction for coefficient	$\frac{.772 + .68}{1.36} = \frac{1.452}{1.36}$
Depth to Freeboard Deck =	31.06	Tons per inch immersion at summer load water line	T = 47.36	Depth Correction	7.95
Summer freeboard =	5.52	Deduction = $\frac{\Delta}{40 T}$ inches	$\frac{13007}{40 \times 47.36} = 6.86 = 6 3/4$	Deduction for superstructures	15.04
Moulded draught (d) =	25.54	FULL $\Delta$	13227	Sheer correction	.24
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =	6.38 = 6 1/2	T.P. 1	47.49	Round of Beam correction	.07
Addition for Winter North Atlantic Freeboard (if required) =	6.38 + 4.26 = 10.64		47.15	Correction for Thickness of Deck amidships	.15
	10.64			Other corrections, scantlings, etc.	
				Summer Freeboard =	66.31

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

Tropical Fresh Water Line above Centre of Disc	13 1/4"	Tropical Fresh Water Freeboard	24 1/2"
Fresh Water Line	6 3/4"	Fresh Water	24 1/2"
Tropical Line	6 1/2"	Tropical	24 1/2"
Winter Line below	6 1/2"	Winter	24 1/2"
Winter North Atlantic Line	10 3/4"	Winter North Atlantic	24 1/2"



A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.



OPENINGS:- Forecastle Bulkhead. Lounage opening 5'-0" x 4'-0" with 18" sill, Portable steel plate stiffened and secured by wide spaced hook bolts.  
 Two hinged steel watertight doors 1 @ 5'-0" x 30" & 1 @ 5'-0" x 24" with 18" sills, secured by toggles and operated from both sides.  
 Bridge Forward Bulkhead:- One hinged steel W.T. door 5'-0" x 30" with 18" sill secured by toggles, operated both sides.  
 Bridge Aft Bulkhead:- Lounage openings 5'-0" x 3'-0" with 18" sills, portable steel plates secured by wide spaced hooked bolts. One hinged steel W.T. door 5'-0" x 24" with 18" sill, secured by toggles, operated both sides.  
 Poop Front Bulkhead:- Two hinged steel W.T. doors 5'-0" x 30" with 18" sills, secured by toggles, operated from both sides.

This report C.II. (Comp.) is forwarded for marking of Freeboards, before vessel is launched about 10<sup>th</sup> Oct 1946.

Poep 88'-1"  
 4'-0" x 2/3 2'-8"  
 90'-9" equiv

Bridge 44'-1"  
 3'-6" x 2/3 = 2'-4"  
 46'-5"

omit

Trade of ship Ocean going tanker  
 Names of sister ships Linga (H.W. No 1309) Lyra (H.W. 1308) Lepton (H.W. 1346)  
 Builder's name and yard number Messrs Harland & Wolff Ld. Belfast. No 1347.  
 Owners Messrs Anglo-Saxon Petroleum Company Ltd  
 Fee £.....

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