

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Link. Report No. 20048.

Computation of Freeboard for <del>Steamer, Sailing Ship, Tanker</del>					Port of Survey <b>GREENOCK.</b>
having <b>POOP, BRIDGE, FORECASTLE</b>					Date of Survey
(Type of Superstructures.)					Name of Surveyor <b>R. Inglis</b>
Ship's Name <b>LITHGOWS LTD NO 886</b>	Nationality and Port of Registry <b>✓</b>	Official Number <b>✓</b>	Gross Tonnage <b>APPROX.</b>	Date of Build <b>✓</b>	Particulars of Classification <b>+100A1</b> <b>CARRYING PETROLEUM IN BULK</b> <b>LONGITUDINAL FRAMING AT BOTTOM OF DECK</b>
Moulded Dimensions: Length <b>463'-0"</b> Breadth <b>61'-6"</b> Depth <b>34'-0"</b>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth tons					
Coefficient of fineness for use with Tables <b>At 85% Moulded Depth .777</b>					
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ... .. <b>34.00</b>		(a) Where D is greater than Table depth <b>3.20</b> (D-Table depth) R = $(34.07 - 30.87) 3.00$ <b>= + 9.60"</b>		Moulded Breadth (B) <b>61.50</b>	
Stringer plate ... .. <b>88"</b> <b>07</b>		(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>✓</b>		Standard Round of Beam = $\frac{B \times 12}{50} = \frac{61.50 \times 12}{50} = 14.76"$	
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ <b>✓</b>		If restricted by superstructures <b>✓</b>		Ship's Round of Beam <b>= 15 1/2"</b>	
Depth for Freeboard (D) = <b>34.07</b>				Difference <b>74"</b>	
				Restricted to	
				Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{74^2}{4} \times .5959 = -1111"$	

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ... ..	<b>103'-00"</b>	<b>103.00</b>	<b>8'-0" At FORE END</b>	<b>✓</b>	<b>103.00</b>
" overhang ... ..	<b>3'-6'-50"</b>	<b>1.75</b>	<b>9'-0" At AFT END</b>	<b>✓</b>	<b>1.75</b>
R.Q.D. enclosed ... ..					
" overhang ... ..					
Bridge enclosed ... ..	<b>36'-00"</b>	<b>36.00</b>	<b>8'-0"</b>	<b>✓</b>	<b>36.00</b>
" overhang aft ... ..	<b>3'-0'-0"</b>	<b>2.25</b>	"		<b>2.25</b>
" overhang forward ... ..	<b>3'-6'-50"</b>	<b>1.75</b>	"		<b>1.75</b>
Fore enclosed (equival.) ... ..	<b>60'-0"</b>	<b>42.34</b>	<b>8'-0" At AFT END</b>	<b>✓</b>	<b>42.34</b>
" overhang ... ..	<b>SEE SKETCH</b>		<b>9'-10" At FORE END</b>	<b>✓</b>	
Trunk aft ... ..	<b>55'-39"</b>				
" forward ... ..					
Tonnage opening aft ... ..					
" " forward ... ..					
Total ... ..	<b>204.39</b>	<b>187.09</b>			<b>187.09</b>

Standard Height of Superstructure	<b>7.50</b>
" " R.Q.D.	<b>✓</b>
Deduction for complete superstructure	<b>42.00</b>
Percentage covered $\frac{S}{L} =$	<b>44.14%</b>
" " $\frac{S_1}{L} =$	<b>40.41%</b>
" " $\frac{E}{L} =$	<b>40.41%</b>
Percentage from Table, Line A. Tanker	<b>31.41</b>
(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 =	<b>42.00 × 31.41 = -13.19</b>

## SHEER CORRECTION.

SEE ALSO SKETCH.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ... ..	<b>56.30</b>	<b>1</b>	<b>✓</b>	<b>56.30</b>	<b>46"</b>	<b>46.00</b>	<b>1</b>	<b>✓</b>	<b>46.00</b>
1/8 L from A.P. ... ..	<b>25.05</b>	<b>4</b>	<b>✓</b>	<b>100.20</b>	<b>24.1</b>	<b>24.10</b>	<b>4</b>	<b>✓</b>	<b>96.40</b>
3/8 L " ... ..	<b>6.195</b>	<b>2</b>	<b>✓</b>	<b>12.39</b>	<b>7</b>	<b>7.00</b>	<b>2</b>	<b>✓</b>	<b>14.00</b>
Amidships ... ..	<b>✓</b>	<b>4</b>	<b>✓</b>	<b>✓</b>	<b>0</b>	<b>✓</b>	<b>4</b>	<b>✓</b>	<b>✓</b>
5/8 L from F.P. ... ..	<b>12.39</b>	<b>2</b>	<b>✓</b>	<b>24.78</b>	<b>10.2</b>	<b>10.20</b>	<b>2</b>	<b>✓</b>	<b>20.40</b>
3/4 L " ... ..	<b>50.10</b>	<b>4</b>	<b>✓</b>	<b>200.40</b>	<b>40.8</b>	<b>40.80</b>	<b>4</b>	<b>✓</b>	<b>163.20</b>
F.P. ... ..	<b>112.60</b>	<b>1</b>	<b>✓</b>	<b>112.60</b>	<b>92</b>	<b>92.00</b>	<b>1</b>	<b>✓</b>	<b>92.00</b>
Total ... ..				<b>506.67</b>					<b>432.00</b>

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{74.67}{18} \left( .75 - \frac{2207}{5293} \right) = +2.20$$

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.

$$\begin{aligned} \text{Depth to Freeboard Deck} &= 34.07 \\ \text{Summer freeboard} &= 6.87 \\ \text{Moulded draught (d)} &= 27.20 \end{aligned}$$

Deduction for Tropical freeboard and addition for

$$\text{Winter freeboard} = \frac{d}{4} \text{ inches} = \frac{27.20}{4} = 6.80 = 6 \frac{3}{4}$$

Addition for Winter North Atlantic Freeboard (if required) =  $6 \frac{3}{4} + 4 \frac{3}{4} = 11 \frac{1}{2}$ 

Deduction for Fresh Water.

$$\begin{aligned} \text{Displacement in salt water at summer load water line} \\ \Delta = 27' - 16977 \quad 17240 \\ \text{Tons per inch immersion at summer load water line} \\ T = 27' - 58.08 \\ \text{Deduction} = \frac{\Delta}{40T} \text{ inches} \\ = \frac{17240}{40 \times 58.08} = 7.40 = 7 \frac{1}{2} \end{aligned}$$

TABULAR FREEBOARD corrected for Fresh Deck (if required)

Correction for coefficient

	<b>777 + 68</b>	<b>1457</b>	
	<b>1.36</b>	<b>1360</b>	
Depth Correction ... ..	<b>9.60</b>	<b>-</b>	
Deduction for superstructures ... ..	<b>-</b>	<b>13.19</b>	
Sheer correction ... ..	<b>2.20</b>	<b>-</b>	
Round of Beam correction ... ..	<b>-</b>	<b>.11</b>	
Correction for Thickness of Deck amidships ... ..	<b>-</b>	<b>-</b>	
Other corrections, scantlings, etc. ... ..	<b>-</b>	<b>-</b>	
	<b>11.80</b>	<b>13.30</b>	<b>- 1.50</b>

Summer Freeboard = **82.55**SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~, Steel, Deck:—

Tropical Fresh Water Line above Centre of Disc ...	<b>14 1/4"</b>
Fresh Water Line " " ...	<b>7 1/2"</b>
Tropical Line " " ...	<b>6 3/4"</b>
Winter Line below " " ...	<b>6 3/4"</b>
Winter North Atlantic Line " " ...	<b>11 1/2"</b>

Tropical Fresh Water Freeboard ...	<b>5'-8 1/4"</b>
Fresh Water " " ...	<b>6'-3 1/4"</b>
Tropical " " ...	<b>6'-3 3/4"</b>
Winter " " ...	<b>7'-5 1/4"</b>
Winter North Atlantic " " ...	<b>7'-10"</b>

# PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	...	...	...	...	...	...	...
Dimensions of Hatchway	...	...	...	...	...	...	...	...	...
COAMINGS	Height above Deck	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	Stiffeners	...	...	...	...	...	...	...	...
	Brackets, Stays	...	...	...	...	...	...	...	...
HATCH BEAMS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
FORE AND AFTERS	Number	...	...	...	...	...	...	...	...
	Spacing	...	...	...	...	...	...	...	...
	Unsupported Lengths	...	...	...	...	...	...	...	...
	Scantling and Sketch	...	...	...	...	...	...	...	...
HATCH COVERS	Material	...	...	...	...	...	...	...	...
	Thickness	...	...	...	...	...	...	...	...
	How fitted	...	...	...	...	...	...	...	...
	Bearing Surface	...	...	...	...	...	...	...	...
Spacing of Cleats	...	...	...	...	...	...	...	...	...
Number of Tarpaulins	...	...	...	...	...	...	...	...	...

\*Are wood fore and afters steel shod at all bearing surfaces?  
 Are battens and wedges efficient and in good condition?  
 Are tarpaulins in good condition and in accordance with rule requirements?  
 Are lashings provided in accordance with rule requirements?

Particulars of fiddle, funnel and ventilator coamings:—

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways:—

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

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

Particulars of Gangway Cargo and Coaling Ports:—

Particulars of Scuppers and Sanitary Discharge Pipes:—

Particulars of Side Scuttles:—

Particulars of Guard Rails:—

Particulars of Gangways, Lifelines, etc.:—

RETAIN

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	...	...	...	...	...	...
Forward Well	...	...	...	...	...	...

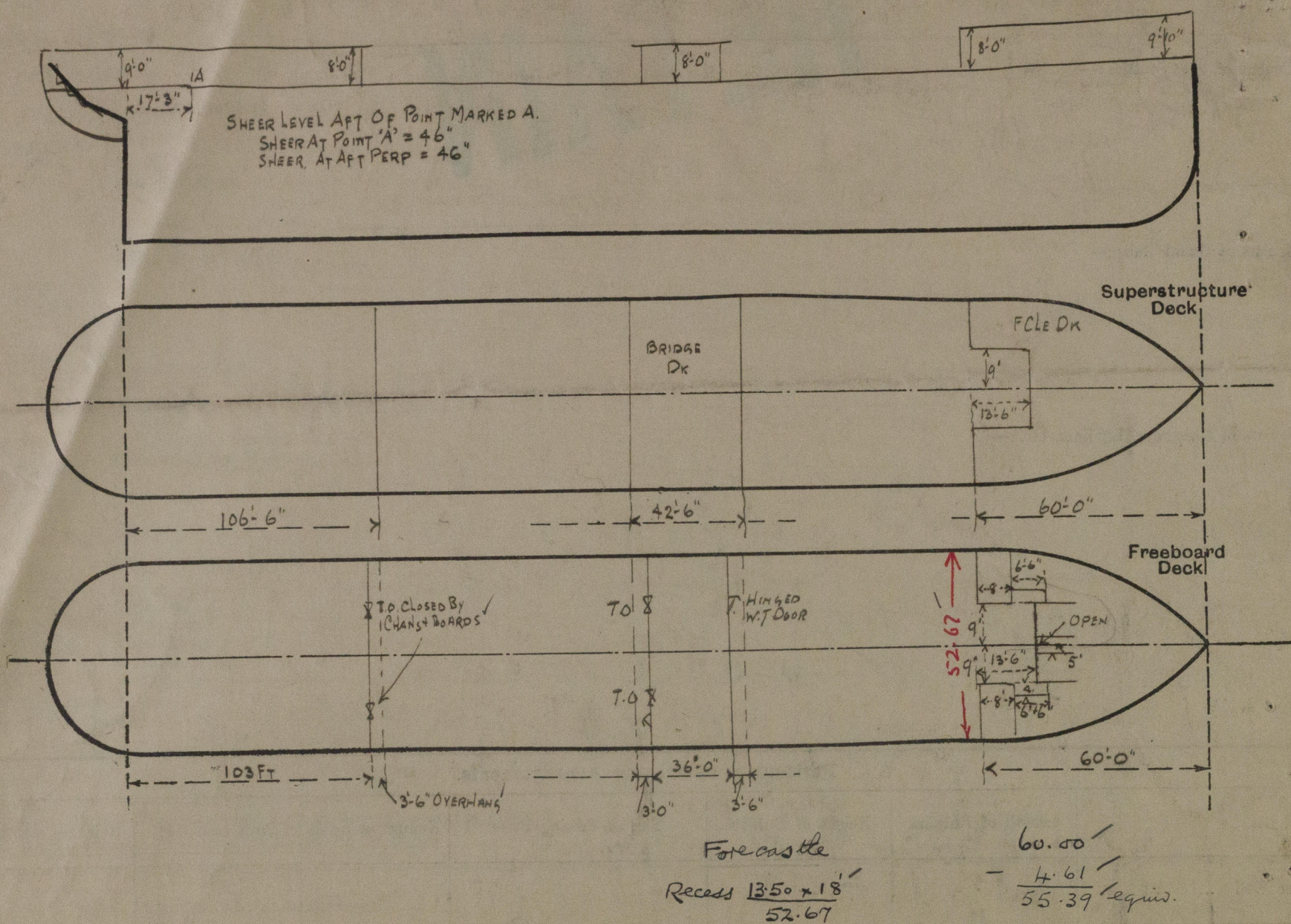
State position of each freeing port ... { After Well:—  
 (F. and A. position and height above deck edge) { Forward Well:—  
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—  
 Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	...	...	...	...	...	...	...	...
Raised Quarter Deck Bulkhead	...	...	...	...	...	...	...	...
Bridge, After Bulkhead	...	...	...	...	...	...	...	...
Bridge, Forward Bulkhead	...	...	...	...	...	...	...	...
Forecastle Bulkhead	...	...	...	...	...	...	...	...
Trunk, Aft	...	...	...	...	...	...	...	...
Trunk, Forward	...	...	...	...	...	...	...	...
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...	...	...	...	...	...	...	...
Exposed Machinery Casings on Superstructure Decks	...	...	...	...	...	...	...	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	...	...	...	...	...	...
Deckhouses on Flush Deck Ships	...	...	...	...	...	...	...	...

Particulars of Closing Appliances (state if capable of being manipulated from both sides).	
Poop Bulkhead	...
Raised Quarter Deck Bulkhead	...
Bridge, After Bulkhead	...
Bridge, Forward Bulkhead	...
Forecastle Bulkhead	...
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...
Exposed Machinery Casings on Superstructure Decks	...
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...
Deckhouses on Flush Deck Ships	...

one hinged W.T. steel door.  
 one hinged W.T. steel door.  
 one hinged W.T. steel door.

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 shewn on the following sketches:—



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

Builder's name and yard number. *Lithgows Ltd No 886.*

Names of sister ships *Building at Harland & Wolff, Cammell Laird & Swan Hunter & Wigham Richardson*

Owners *British Tanker Co.*

Fee £ \_\_\_\_\_ Received by me \_\_\_\_\_



© 2020  
Lloyd's Register  
Foundation