

30'-6" increased length inserted aft of amidships.

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. _____
(For London Office only.)

Computation of Freeboard for Steamer Sailing Ship, Tanker					Port of Survey _____
having _____					Date of Survey <u>20.3.35</u>
(Type of Superstructures.)					Name of Surveyor _____
Ship's Name <u>'Clayfields'</u>	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build	Particulars of Classification <u>100A1</u> <u>Carrying petroleum in bulk.</u>
Moulded Dimensions: Length <u>449.91</u> Breadth <u>57.5</u> Depth <u>32.78</u>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>16451</u> tons					
Coefficient of fineness for use with Tables <u>.799</u>					

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ...	<u>32.78</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(32.84 - 29.99) × 3 = + 8.55</u>		Moulded Breadth (B) <u>57.5</u>	
Stringer plate ...	<u>.06</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <u>2.85</u>		Standard Round of Beam = $\frac{B \times 12}{50} = 13.80$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	<u>✓</u>	If restricted by superstructures <u>✓</u>		Ship's Round of Beam = <u>15.00</u>	
Depth for Freeboard (D) =	<u>32.84</u>			Difference <u>1.20</u>	
				Restricted to <u>✓</u>	
				Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.20}{4} \times \frac{61.44}{57.5} = -.18$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<u>89.08</u>	<u>89.08</u>	<u>7.5</u>	<u>✓</u>	<u>89.08</u>	Standard Height of Superstructure <u>7.5</u>
" overhang ...						" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42</u>
" overhang ...						Percentage covered $\frac{S}{L} = 39.63$
Bridge enclosed ...	<u>35.50</u>	<u>35.50</u>	<u>8.0</u>	<u>✓</u>	<u>35.50</u>	" $\frac{S_1}{L} = 38.56$
" overhang aft ...	<u>4.25</u>	<u>3.19</u>			<u>3.19</u>	" $\frac{E}{L} = 38.56$
" overhang forward ...	<u>4.25</u>	<u>2.12</u>			<u>2.12</u>	Percentage from Table, Line A. <u>✓</u>
F'cle enclosed <u>Sp</u> ...	<u>45.25</u>	<u>43.57</u>	<u>7.5</u>	<u>✓</u>	<u>43.57</u>	(corrected for absence of forecastle (if required))
" overhang ...						Percentage from Table, <u>Line B. Tanker</u> <u>29.56</u>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>42 × 29.56 = -12.41</u>
" " forward ...						
Total ...	<u>178.33</u>	<u>173.48</u>			<u>173.48</u>	

SHEER CORRECTION.

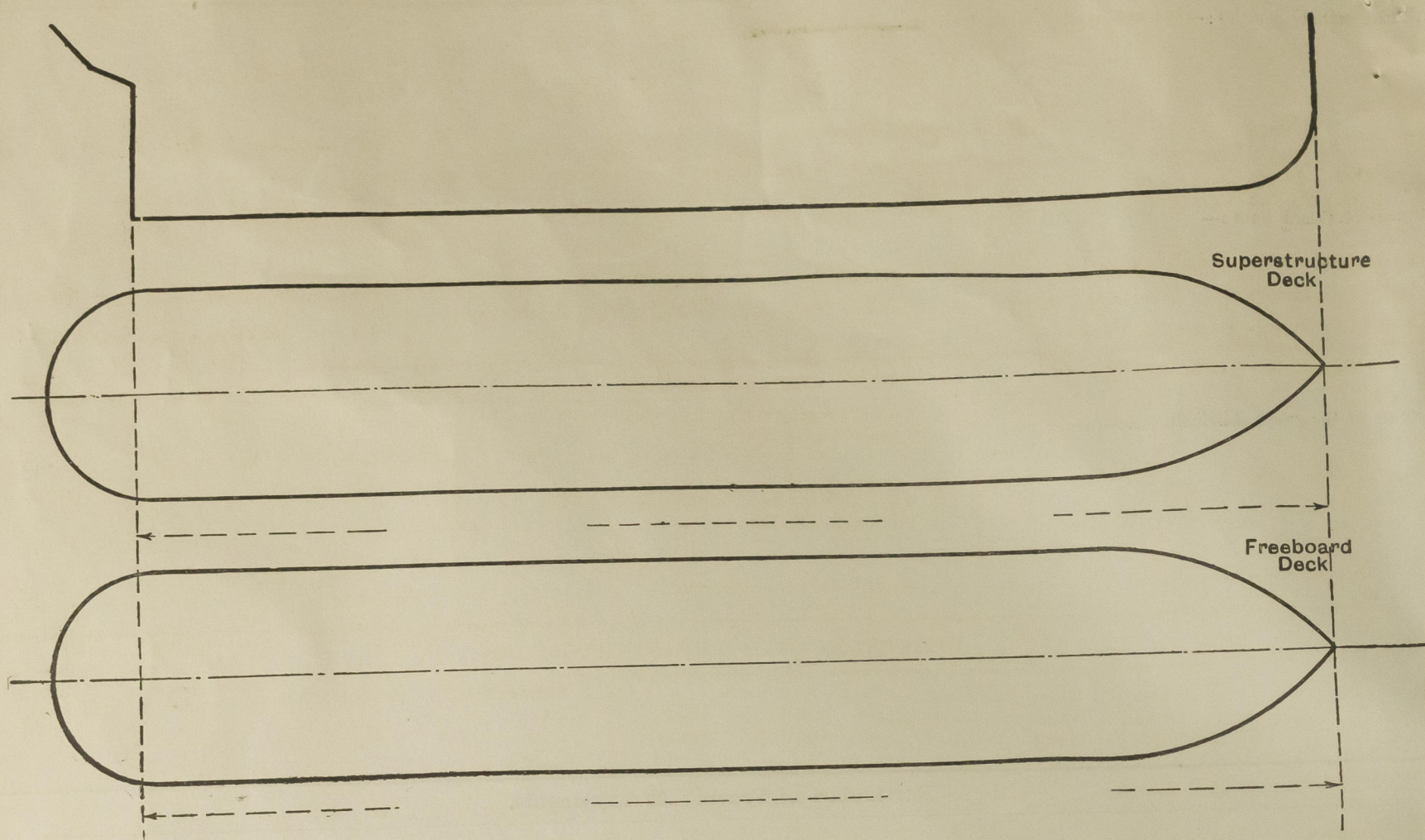
Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>54.99</u>	<u>1</u>	<u>✓</u>	<u>54.99</u>	<u>59.20</u>	<u>59.2</u>	<u>1</u>	<u>✓</u>	<u>59.2</u>	Mean actual sheer aft = <u>Deficient</u>
$\frac{1}{8}$ L from A.P. ...	<u>24.475</u>	<u>4</u>	<u>✓</u>	<u>97.90</u>	<u>24.2</u>	<u>24.2</u>	<u>4</u>	<u>✓</u>	<u>96.8</u>	Mean actual sheer forward = <u>Deficient</u> <u>96.62</u>
$\frac{3}{8}$ L " ...	<u>6.05</u>	<u>2</u>	<u>✓</u>	<u>12.10</u>	<u>4.2</u>	<u>4.2</u>	<u>2</u>	<u>✓</u>	<u>8.4</u>	Mean standard sheer forward
Amidships ...	<u>-</u>	<u>4</u>	<u>✓</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>4</u>	<u>✓</u>	<u>-</u>	Length of enclosed superstructure forward of amidships =
$\frac{3}{8}$ L from F.P. ...	<u>12.10</u>	<u>2</u>	<u>✓</u>	<u>24.20</u>	<u>9.3</u>	<u>9.3</u>	<u>2</u>	<u>✓</u>	<u>18.6</u>	" " aft of " =
$\frac{1}{8}$ L " ...	<u>48.95</u>	<u>4</u>	<u>✓</u>	<u>195.80</u>	<u>47.2</u>	<u>47.2</u>	<u>4</u>	<u>✓</u>	<u>188.8</u>	Sheer Forward Standard
F.P. ...	<u>109.98</u>	<u>1</u>	<u>✓</u>	<u>109.98</u>	<u>113.7</u>	<u>113.7</u>	<u>1</u>	<u>✓</u>	<u>113.7</u>	Actual
Total ...	<u>494.91</u>			<u>494.97</u>					<u>485.5</u>	$\frac{12.10}{109.98} \times \frac{36.30}{146.85} \times \frac{7.3}{47.2} \times \frac{27.9}{141.6} \times \frac{113.7}{283.2}$
Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{9.47}{18} \left(.75 - \frac{1.981}{198.1} \right) = +.29$										If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.
If limited on account of midship superstructure. <u>✓</u>										

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)	<u>75.08</u>
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.799 + .68}{1.36} = \frac{1.479}{1.36}$	<u>81.66</u>
Depth to Freeboard Deck = <u>32.84</u>	$\Delta =$	Depth Correction ...	<u>8.55</u>
Summer freeboard = <u>6.50</u>	Tons per inch immersion at summer load water line	Deduction for superstructures ...	<u>- 2.41</u>
Moulded draught (d) = <u>26.34</u>	T =	Sheer correction ...	<u>0.29</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches =	Deduction = $\frac{\Delta}{40T}$ inches =	Round of Beam correction ...	<u>- 0.18</u>
Addition for Winter North Atlantic Freeboard (if required) =		Correction for Thickness of Deck amidships ...	<u>-</u>
		Other corrections, scantlings, etc. ...	<u>-</u>
		Summer Freeboard = <u>77.91</u>	

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

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	Fresh Water " " ...
Tropical Line " " ...	Tropical " " ...
Winter Line below " " ...	Winter " " ...
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...

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:—

$$\text{Increase in Mld Depth} = 6.62 \times \left(\frac{15.25}{69.9} \right)^2 = .31$$

$$\text{Area of mid ship section to .85 Dm} = .85 \times 32.78 \times 57.5 \times .97 = 1554 \text{ } \phi$$

$$\text{Increase } \Delta = \frac{30.5 \times 1554}{35} = 1354 \text{ ton}$$

$$\text{Increase in increased Dm} = .31 \times 85 \times 48.3 = \frac{13}{1367} \\ \frac{1508.4}{16451}$$

Stirling A

Builder's name and yard number

Names of sister ships

Owners

Fee £

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