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(For London Office only).

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <i>Charles Connell & Co Ltd</i> <i>Yard N° 430</i>	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey <i>Glasgow</i>
Moulded Dimensions: Length <i>419.12</i> ✓ Breadth <i>54.29</i> ✓ Depth <i>32.58</i> ✓ <small>To C² of Stack.</small>					Date of Survey ✓
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons					Surveyor's Signature <i>P. Dunsmuir</i>
Coefficient of fineness for use with Tables <i>.756 as given by Builders.</i> ✓					Particulars of Classification <i>+100 A1</i> <i>(Contemplated)</i>

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth <i>32.58</i> ✓	(a) Where D is greater than Table depth (D - Table depth) R = <i>(32.61 - 27.94)3 = +14.01"</i>	Moulded Breadth (B) <i>54.29</i> ✓
Stringer plate <i>.040</i> <i>.03</i> ✓	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{651.48}{50} = 13.03"$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = Nil.$ ✓	If restricted by superstructures ✓	Ship's Round of Beam = <i>16½"</i>
Depth for Freeboard (D) = <i>32.61</i> ✓		Difference <i>Express</i> = <i>3.47"</i>
		Restricted to
		Correction = $\frac{Diff^*}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{3.47}{4} \times .4851 = -.42"$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<i>37.12</i> ✓	<i>37.12</i> ✓	<i>7'-11½"</i>	✓	<i>37.12</i> ✓
„ overhang	<i>.30</i> ✓	<i>.15</i> ✓	„	✓	<i>.15</i> ✓
R.Q.D. enclosed					
„ overhang	<i>123.32</i> ✓				
Bridge enclosed <i>(see Survey)</i> <i>125.0</i> ✓	<i>123.32</i> ✓	<i>123.32</i> ✓	<i>7'-11½"</i>	✓	<i>123.32</i> ✓
„ overhang aft	<i>12.93 + .35</i> ✓	<i>9.70</i> ✓	„		<i>9.70</i> ✓
„ overhang forward	<i>1.75</i> ✓	<i>.87</i> ✓	„	✓	<i>.87</i> ✓
F'cle enclosed	<i>44.5</i> ✓	<i>44.50</i> ✓	<i>7'-11½"</i>	✓	<i>44.50</i> ✓
„ overhang	<i>.30</i> ✓	<i>.15</i> ✓	„	✓	<i>.15</i> ✓
Trunk aft					
„ forward					
Tonnage opening aft					
„ „ forward					
Total	<i>220.22</i>	<i>215.81</i> ✓			<i>215.81</i> ✓

Standard Height of Superstructure <i>7.50'</i>	
„ „ R.Q.D. ✓	
Deduction for complete superstructure <i>42.00"</i>	
Percentage covered $\frac{S}{L} = \frac{215.81}{419.12} = 51.49\%$ ✓	
„ $\frac{S_1}{L} = \frac{123.32}{419.12} = 29.42\%$ ✓	
„ $\frac{E}{L} = \frac{215.81}{419.12} = 51.49\%$ ✓	
Percentage from Table, Line A. ✓	
(corrected for absence of forecastle (if required)) ✓	
Percentage from Table, Line B. <i>37.49</i> ✓	
(corrected for absence of forecastle (if required)) ✓	
Interpolation for bridge less than 2L (if required) ✓	
Deduction = <i>42.00</i> × <i>.3749</i> = <i>15.74"</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	<i>51.91</i> ✓	1	<i>51.91</i> ✓	<i>66.0</i>	<i>66.00</i> ✓	1	<i>66.00</i> ✓
¼L from A.P.	<i>23.10</i> ✓	4	<i>92.40</i> ✓	<i>29.5</i>	<i>29.50</i> ✓	4	<i>118.00</i> ✓
¾L „	<i>5.71</i> ✓	2	<i>11.42</i> ✓	<i>8.5</i>	<i>8.50</i> ✓	2	<i>17.00</i> ✓
Amidships	-	4	-	0	-	4	-
¾L from F.P.	<i>11.42</i> ✓	2	<i>22.84</i> ✓	<i>17.5</i>	<i>17.50</i> ✓	2	<i>35.00</i> ✓
¼L „	<i>46.20</i> ✓	4	<i>184.80</i> ✓	<i>60.5</i>	<i>60.50</i> ✓	4	<i>242.00</i> ✓
F.P.	<i>103.82</i> ✓	1	<i>103.82</i> ✓	<i>138.0</i>	<i>138.00</i> ✓	1	<i>138.00</i> ✓
Total			<i>464.19</i>				<i>616.00</i>

Mean actual sheer aft = *Express* ✓
Mean standard sheer aft = *Express* ✓Mean actual sheer forward = *Express* ✓
Mean standard sheer forward = *Express* ✓Length of enclosed superstructure forward of amidships = *2.1L* ✓
„ „ aft of „ = *2.1L* ✓Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{148.81}{18} \left(.75 - \frac{262.7}{419.12} \right) = -4.03"$
If limited on account of midship superstructure. *4873*

If limited to maximum allowance of 1½ 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	Correction for coefficient $\frac{.756 \times .68}{1.36} = \frac{1.436}{1.36}$	<i>77.52"</i>
Depth to Freeboard Deck = <i>32.61</i> ✓	Δ =	Depth Correction <i>14.01</i> ✓	<i>81.85"</i> ✓
Summer freeboard = <i>6.31</i> ✓	Tons per inch immersion at summer load water line	Deduction for superstructures - <i>15.74</i> ✓	
Moulded draught (d) = <i>26.30</i> ✓	T =	Sheer correction - <i>4.03</i> ✓	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>6.57</i> = <i>6½"</i>	Deduction = $\frac{\Delta}{40T}$ inches	Round of Beam correction - <i>.42</i> ✓	
Addition for Winter North Atlantic Freeboard (if required) = ✓	$\frac{d}{4} = 6½"$	Correction for Thickness of Deck amidships -	
		Other corrections, scantlings, etc. -	
		<i>14.01</i> <i>20.19</i> <i>-6.18"</i>	
		Summer Freeboard = <i>75.67"</i>	

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

Tropical Fresh Water Line above Centre of Disc	<i>13"</i> ✓
Fresh Water Line „ „	<i>6½"</i> ✓
Tropical Line „ „	<i>6½"</i> ✓
Winter Line below „ „	<i>6½"</i> ✓
Winter North Atlantic Line „ „	✓

Tropical Fresh Water Freeboard	<i>5-3¾"</i>
Fresh Water „ „	<i>5-2¾"</i>
Tropical „ „	<i>5-9¼"</i> ✓
Winter „ „	<i>5-9¼"</i> ✓
Winter North Atlantic „ „	<i>6-10¼"</i> ✓

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.

Bridge End Equiv. Bhd.

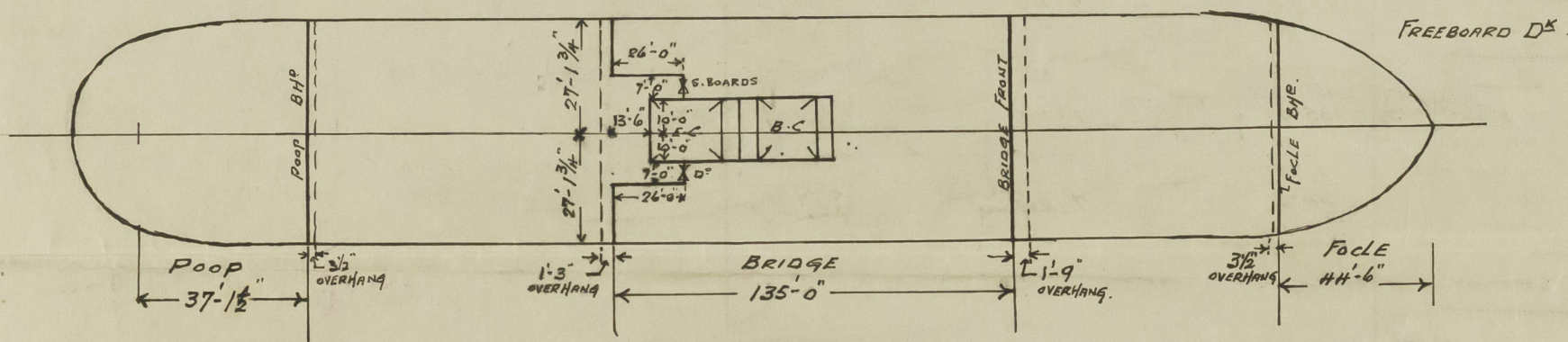
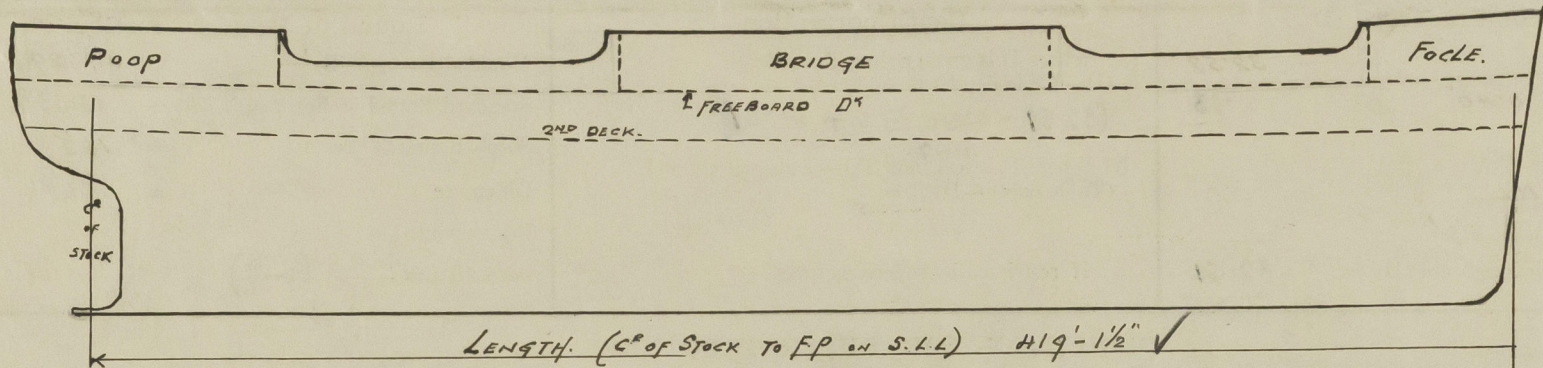
$$26.0 \times 7.0 \times 2 = 364 \checkmark$$

$$20.0 \times 13.5 = 270 \checkmark$$

$$634 \checkmark \div 54.29 = 11.68' \checkmark$$

$$\text{Enclosed Length} = 135.0 - 11.68 = 123.32' \checkmark$$

$$\text{Overhang aft} = 11.68 + 1.25 = 12.93' \checkmark$$



Builders request preliminary freeboard.

Approved Plans of Midship Section & Profile
are forwarded for reference.

Trade of ship International Trade

Names of sister ships ✓

Builder's name and yard number Charles Connell & Co. Ltd.

Owners J. & J. Harrison.

Fee £