

PRELIMINARY.

# LLOYD'S REGISTER OF SHIPPING

## SURVEYS FOR FREEBOARD

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER)

For LONDON OFFICE ONLY

Received .....

Index No. ....

Govt. Copy .....

Owners C11 .....

Ship's Name <b>R. Dunston</b> <b>Yard No. 5780/1</b>	Official Number <b>-</b>	Nationality and Port of Registry <b>Australian</b> <b>Melbourne</b>	Gross Tonnage <b>1961</b>	Date of Build <b>1961</b>	Port of Survey <b>HULL</b>
Moulded Dimensions: Length <b>170.00'</b> Breadth <b>36.00'</b> Depth <b>17.00 ft</b>					Date of Survey <b>-</b>
Freeboard Length <b>170.00 ft</b>					Surveyor's Signature <b>J. K. Kirby</b>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>1734.6</b> tons (excluding bossing) <b>assuming hopper doors closed and intact and including a displacement of 10 tons for recess under doors.</b>					Particulars of Classification <b>100 A1</b> <b>"Hopper Barge"</b> <b>"for Restricted Service"</b>
Coefficient of fineness for use with Tables <b>.687</b>					

DEPTH FOR FREEBOARD (D).		DEPTH CORRECTION.		ROUND OF BEAM CORRECTION.	
Moulded depth	17.00	(a) Where D is greater than Table depth (D-Table depth) R = <b>(17.00 - 11.33) 1.307 = 7.42</b>		Moulded Breadth (B)	
Stringer plate	<b>(.44")</b>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R = <b>5.71</b>		Standard Round of Beam = $\frac{B \times 12}{50}$	<b>= 8.64</b>
Wood Sheathing on exposed deck		If restricted by superstructures		Ship's Round of Beam	<b>= 9 ins.</b>
$T \left( \frac{L-S}{L} \right) =$				Difference	<b>.36</b>
Depth for Freeboard (D) =	<b>17.04</b>			Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times \left( 1 - \frac{S_1}{L} \right)$	<b>= <math>\frac{.36}{4} \times .7 = -.08</math></b>

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed					
" overhang					
R.Q.D. enclosed	<b>say 0.12</b>	<b>0.12</b>	<b>Stand</b>		
" overhang					
Bridge enclosed					
" overhang aft					
" overhang forward					
Fore enclosed					
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" forward					
Total					

Standard Height of Superstructure \_\_\_\_\_

" " R.Q.D. \_\_\_\_\_

Deduction for complete superstructure \_\_\_\_\_

Percentage covered  $\frac{S}{L} =$  \_\_\_\_\_

" "  $\frac{S_1}{L} =$  **10.00**

" "  $\frac{E}{L} =$  \_\_\_\_\_

Percentage from Table, Line A. **- 5.00 - 5.00**  
(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 = **11.1**

## inches. SHEER CORRECTION. Level trim.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<b>27</b>	<b>1</b>			<b>29.9</b>		<b>1</b>		<b>29.9</b>
$\frac{1}{4}L$ from A.P.	<b>12.02</b>	<b>4</b>			<b>11.6</b>		<b>4</b>		<b>46.4</b>
$\frac{2}{4}L$ "	<b>2.97</b>	<b>2</b>			<b>2.9</b>		<b>2</b>		<b>5.8</b>
Amidships	<b>0</b>	<b>4</b>	<b>0</b>		<b>0</b>		<b>4</b>	<b>0</b>	
$\frac{3}{4}L$ from F.P.	<b>5.94</b>	<b>2</b>			<b>5.7</b>		<b>2</b>		<b>11.4</b>
$\frac{1}{4}L$ "	<b>24.03</b>	<b>4</b>			<b>24.4</b>		<b>4</b>		<b>97.6</b>
F.P.	<b>54</b>	<b>1</b>			<b>60.0</b>		<b>1</b>		<b>60.0</b>
Total				<b>243.</b>					<b>251.1</b>

Mean actual sheer aft = \_\_\_\_\_  
Mean standard sheer aft = \_\_\_\_\_

Mean actual sheer forward = \_\_\_\_\_  
Mean standard sheer forward = \_\_\_\_\_

Length of enclosed superstructure forward of amidships = \_\_\_\_\_  
" " aft of " = \_\_\_\_\_

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \text{Excess not allowed if no flush deck.}$   
 If limited on account of midship superstructure. **(Flush deck.  $8 \frac{1}{18} \times \frac{3}{4} = .34$ )** If limited to maximum allowance of  $1 \frac{1}{2}$  ins. per 100ft. **220**

## Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

## Deduction for Fresh Water.

## TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

**17.00** Depth to Freeboard Deck = **17.00**  
**2.33** Summer freeboard = **2.15**  
**14.67** Moulded draught (d) = **14.85**  
 Keel allowance = \_\_\_\_\_  
 Extreme draught = \_\_\_\_\_  
 Deduction for Tropical freeboard and addition for = \_\_\_\_\_

Winter freeboard =  $\frac{d}{4}$  inches = \_\_\_\_\_

Addition for Winter North Atlantic Freeboard (if required) = \_\_\_\_\_

Displacement in salt water at summer load water line  
 $\Delta = 1782.5 \text{ tons @ } 14' - 10"$   
 Tons per inch immersion at summer load water line  
 $T = 8.64 \text{ at } 14' - 10"$   
 Deduction =  $\frac{\Delta}{40 T}$  inches = \_\_\_\_\_

Depth Correction ... **7.42**  
 Deduction for superstructures ... **-**  
 Sheer correction ... **-**  
 Round of Beam correction ... **.08**  
 Correction for Thickness of Deck amidships ... **-**  
 Other corrections, scantlings, etc. ... **-**

+	-
7.42	-
-	-
-	-
-	.08
-	-
-	-
7.42	.08
Summer Freeboard = <b>25.73</b>	

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

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

Tropical Fresh Water Freeboard ...  
 Fresh Water " ...  
 Tropical " ...  
 Winter " ...  
 Winter North Atlantic " ...

\* With doors closed and 1050 tons of spoil in hopper. TPI doors closed & intact 14.42  
 \* Hopper doors open.



Freeboard to give  $d = 14' - 10''$  at  $(14 - 9\frac{1}{2} \text{ moulded})$   
 is  $17.04 - 14.79 = 2.25'$

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.

Flush Deck Modify sheer.

If Sheer is made parabolic and  $(27+3)$  in aft  
 or  $(54+8)$  in forward

Then <sup>excess</sup> sheer allowance would be  $\frac{(3 \times 3) + (8 \times 3)}{18} \times \frac{3}{4}$   
 $= \frac{33}{24} = 1.38$

Freeboard =  $20.96 + (7.34 - 1.38)$   
 $= 26.92 = 2' 3'' = 2.25'$

$$\begin{array}{r} 27 \\ 20.96 \\ 6.04 \\ 7.34 \\ \hline 1.30 \end{array}$$

$1.30 \times 24 =$

Flush Deck, Modify Depth. (New, camber remaining same)  
 also CB

Freeboard required =  $2.25' = 27''$

Depth required to be increased by  $\frac{12}{(12 - 1.307)} \times 12 = 1.35$   
 $10.693$

$17' - 1\frac{1}{2}''$   
 D.  $17.13 + .04 = 17.17$

Depth correction =  $\frac{(17.17 - 11.33) 1.307}{5.84} = 7.63$

Freeboard  $20.96 + (7.63 - .08 - .34)$

$28.17 = 2' - 4\frac{1}{4}'' = 2.35'$

$d = \frac{17.17}{2.35} = 14.82$

Trade of ship Port Phillip (Melbourne) . Exact limits not yet defined.

Names of sister ships None.

Builder's name and yard number R. Dunston Ltd Yard No. 5780/1

Owners Melbourne Harbour Trust Commissioners

Fee £ : :

List of plans forwarded for reference. (See "Instructions to Surveyors, Part 4, 1950", paragraph 11.)

Approved Midship Section herewith  
 General Arrangement (sent 4/1/61)