

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

GRK. REPORT N° 20963.

Ship's Name <b>CAPE WRATH.</b>	Official Number <b>165975</b>	Nationality and Port of Registry <b>BRITISH GLASGOW</b>	Gross Tonnage <b>APPROX 4512 4500</b>	Date of Build <b>1940</b>	Port of Survey <b>Greenock</b>
Moulded Dimensions: Length <b>405</b> Breadth <b>54</b> Depth <b>26' 3"</b> <b>FREEBOARD LENGTH 405.52</b>				Date of Survey <b>While building.</b>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth <b>10288</b> tons				Surveyor's Signature <b>Kenneth Inglis.</b>	
Coefficient of fineness for use with Tables <b>737</b>				Particulars of Classification <b>+100 A.I. WITH FREEBOARD</b>	

Depth for Freeboard (D)	Depth correction.	Round of Beam correction.
Moulded depth ... <b>26.25</b>	(a) Where D is greater than Table depth (D - Table depth) R =	Moulded Breadth (B) <b>54</b>
Stringer plate ... <b>0.60</b>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Standard Round of Beam = $\frac{B \times 12}{50} = 12.96$
Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$	( <b>27.04 - 26.40</b> ) $\times 3.0 = 1.92$	Ship's Round of Beam = <b>13 1/2</b>
<b>2 1/2" Wood Plank From Fms 3 To 16 OVER Accommodation</b>	If restricted by superstructures	Difference <b>Excess</b> <b>0.54</b>
Depth for Freeboard (D) = <b>26.30</b>		Restricted to
		Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.54^2}{4} \times .61 = \text{Nil}$

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<b>37' 4 3/4"</b>	<b>37.39</b>	<b>8' 0"</b>	<b>✓</b>	<b>37.39</b>
.. overhang ...					
R.Q.D. enclosed ...					
.. overhang ...					
Bridge enclosed ...	<b>363' 1 1/2"</b>	<b>363.13</b>	<b>8' 0"</b>	<b>✓</b>	<b>363.13</b>
.. overhang aft ...					
.. overhang forward ...					
Fore enclosed <b>ONSHELTER DK 31' 4 1/2"</b>			<b>7' 0"</b>		
.. overhang ...					
Trunk aft ...					
.. forward ...					
Tonnage opening aft ...	<b>5' 0"</b>	<b>Diff x 1/2 = 1.5</b>	<b>8' 0"</b>	<b>✓</b>	<b>1.50</b>
.. forward ...					
Total ...	<b>405.52</b>	<b>403.02</b>			<b>403.02</b>

Standard Height of Superstructure	<b>7.5'</b>
.. .. R.Q.D.	<b>✓</b>
Deduction for complete superstructure	<b>42.00"</b>
Percentage covered $\frac{S}{L} =$	<b>100.00</b>
.. .. $\frac{S_1}{L} =$	<b>99.38</b>
.. .. $\frac{E}{L} =$	<b>99.38</b>
Percentage from Table, Line A. and B	<b>99.24</b>
(corrected for absence of forecastle (if required))	<b>✓</b>
Percentage from Table, Line B.	<b>✓</b>
(corrected for absence of forecastle (if required))	<b>✓</b>
Interpolation for bridge less than 2L (if required)	<b>✓</b>
Deduction =	<b>42 x .9924 = -41.68"</b>

### SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<b>50.55</b>	<b>1</b>		<b>50.55</b>	<b>54</b>	<b>60.00</b>	<b>1</b>		<b>60.00</b>
1/4 L from A.P. ...	<b>22.50</b>	<b>4</b>		<b>90.00</b>	<b>24</b>	<b>26.70</b>	<b>4</b>		<b>106.80</b>
1/2 L ..	<b>5.56</b>	<b>2</b>		<b>11.12</b>	<b>6</b>	<b>6.60</b>	<b>2</b>		<b>13.20</b>
Amidships ...		<b>4</b>			<b>0</b>		<b>4</b>		
3/4 L from F.P. ...	<b>11.12</b>	<b>2</b>		<b>22.24</b>	<b>12</b>	<b>12.54</b>	<b>2</b>		<b>25.08</b>
1/4 L ..	<b>44.99</b>	<b>4</b>		<b>179.96</b>	<b>48</b>	<b>50.73</b>	<b>4</b>		<b>202.92</b>
F.P. ...	<b>101.10</b>	<b>1</b>		<b>101.10</b>	<b>108</b>	<b>114.60</b>	<b>1</b>		<b>114.60</b>
Total ...				<b>454.97</b>	<b>+6</b>				<b>522.00</b>

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( \frac{.75 - S}{2L} \right) = \frac{67.03 \times .25}{18} = - .93"$

If limited on account of midship superstructure.

Mean actual sheer aft = **Excess.**

Mean standard sheer aft

Mean actual sheer forward = **Excess.**

Mean standard sheer forward

Length of enclosed superstructure forward of amidships = **1**

.. .. aft of .. = **c.s.s.**

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Fresh Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient
Depth to Freeboard Deck = <b>26.30</b>	<b>23 - 10667</b>	<b>737 + .68</b>
Summer freeboard = <b>1.62</b>	$\Delta = 24 - 11192$	<b>1.36</b>
Moulded draught (d) = <b>23.68</b>	Tons per inch immersion at summer load water line	
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>5.92 = 6"</b>	<b>23 - 4333</b>	
Addition for Winter North Atlantic Freeboard (if required) =	<b>24 - 4375</b>	
	Deduction = $\frac{40T}{40}$ inches	
	= <b>6.35</b>	
	= <b>6 1/4"</b>	

Depth Correction	...	...	...	...	...	...	...	...	...
Deduction for superstructures	...	...	...	...	...	...	...	...	...
Sheer correction	...	...	...	...	...	...	...	...	...
Round of Beam correction	...	...	...	...	...	...	...	...	...
Correction for Thickness of Deck amidships	...	...	...	...	...	...	...	...	...
Other corrections, scantlings, etc.	...	...	...	...	...	...	...	...	...
Summer Freeboard =	<b>31.44</b>								

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

Tropical Fresh Water Line above Centre of Disc ...	<b>12 1/4"</b>	Tropical Fresh Water Freeboard ...	<b>1 - 7 1/4"</b>
Fresh Water Line ..	<b>6 1/4"</b>	Fresh Water ..	<b>2' - 1 1/4"</b>
Tropical Line ..	<b>6"</b>	Tropical ..	<b>2' - 1 1/2"</b>
Winter Line below ..	<b>6"</b>	Winter ..	<b>3' - 1 1/2"</b>
Winter North Atlantic Line ..	<b>✓</b>	Winter North Atlantic ..	<b>✓</b>



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.

Trade of ship

INTERNATIONAL.

Names of sister ships

✓

Builder's name and yard number

LITHGOWS LTD No 934.

Owners

LYLE SHIPPING Co LTD . GLASGOW.

APPROX

Fee £

15 0 0

To BE RENDERED WITH FIRST ENTRY.



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Foundation