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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

MDB. 18160.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name <i>Smiths Dock Co. Ltd. Yard no 1160 "CYRENA"</i>	Official Number	Nationality and Port of Registry <i>BRITISH. LONDON.</i>	Gross Tonnage	Date of Build <i>1946.</i>	Port of Survey <i>Middlesbrough</i>
Moulded Dimensions: Length <i>360.75</i> Breadth <i>49.50</i> Depth <i>28.82 to top of keel plate</i>					Date of Survey <i>Whilst Building 1946.</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>9420</i> tons					Surveyor's Signature <i>J.P. Scott.</i>
Coefficient of fineness for use with Tables <i>754</i>					Particulars of Classification <i>100A1 contemplated.</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <i>28.82</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(28.82 - 24.05) 2.775 = +13.35"</i>	Moulded Breadth (B) <i>49.50</i>
Stringer plate ... <i>50"</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = <i>4.81</i>	Standard Round of Beam = $\frac{B \times 12}{50} = 11.88$
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <i>12.0</i>
Depth for Freeboard (D) = <i>28.86</i>		Difference = <i>.12</i>
		Restricted to <i>✓</i>
		Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.12}{4} \times .619 = -.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
AFTER BRIDGE						
Boop enclosed EQUIV. ...	<i>62.50</i>	<i>62.50</i>	<i>8'-0"</i>	-	<i>62.50</i>	Standard Height of Superstructure <i>7.108'</i>
" overhang AFT. ...	<i>.75</i>	<i>.56</i>			<i>.56</i>	" " R.Q.D. <i>39.38'</i>
R.Q.D. enclosed ...						Deduction for complete superstructure
" overhang ...						Percentage covered $\frac{S}{L} = 37.08$
Bridge enclosed EQUIV. ...	<i>43.17</i>	<i>43.17</i>	<i>7'-6"</i>	-	<i>43.17</i>	" " $\frac{S_1}{L} = 36.81$
" overhang aft ...	<i>3.00</i>	<i>2.25</i>			<i>2.25</i>	" " $\frac{E}{L} =$
" overhang forward ...						Percentage from Table, Line A. <i>20.79</i>
F'cle enclosed ...	<i>23.83</i>	<i>23.83</i>	<i>7'-6"</i>	-	<i>23.83</i>	(corrected for absence of forecastle (if required))
" overhang ...	<i>.50</i>	<i>.50</i>			<i>.50</i>	Percentage from Table, Line B. <i>24.79</i>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than .2L (if required) <i>20.79 - (4 x .42 / 72.15)</i>
Tonnage opening aft ...						Deduction = <i>39.38 x .2331 = -9.18'</i>
" " forward ...						
Total ...	<i>132.75</i>	<i>132.81</i>			<i>132.81</i>	

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	<i>46.08</i>	1	<i>46.08</i>	<i>46.00</i>	<i>46.00</i>	1	<i>46.00</i>
$\frac{1}{4}$ L from A.P. ...	<i>20.50</i>	4	<i>82.00</i>	<i>20.50</i>	<i>20.50</i>	4	<i>82.00</i>
$\frac{2}{4}$ L " ...	<i>5.07</i>	2	<i>10.14</i>	<i>5.06</i>	<i>5.06</i>	2	<i>10.12</i>
Amidships ...	-	4	-	-	-	4	-
$\frac{3}{4}$ L from F.P. ...	<i>10.135</i>	2	<i>20.27</i>	<i>10.12</i>	<i>10.12</i>	2	<i>20.24</i>
$\frac{1}{4}$ L " ...	<i>41.005</i>	4	<i>164.02</i>	<i>41.00</i>	<i>41.00</i>	4	<i>164.00</i>
F.P. ...	<i>92.15</i>	1	<i>92.15</i>	<i>92.00</i>	<i>92.00</i>	1	<i>92.00</i>
Total ...			<i>414.66</i>				<i>414.36</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{30.30}{18} = 1.68$

If limited on account of midship superstructure.

Mean actual sheer aft = *< 1*
Mean standard sheer aft = *< 1*

Mean actual sheer forward = *< 1*
Mean standard sheer forward = *< 1*

Length of enclosed superstructure forward of amidships = *Sheer deficient.*

Tabular Sheer Standard. Actual aft of " = *Sheer deficient.*

10.135 30.405 30.36
41.005 123.015 123.00
92.15 192.15 92.00
245.570 245.36 / 245.57 = .9992.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft.

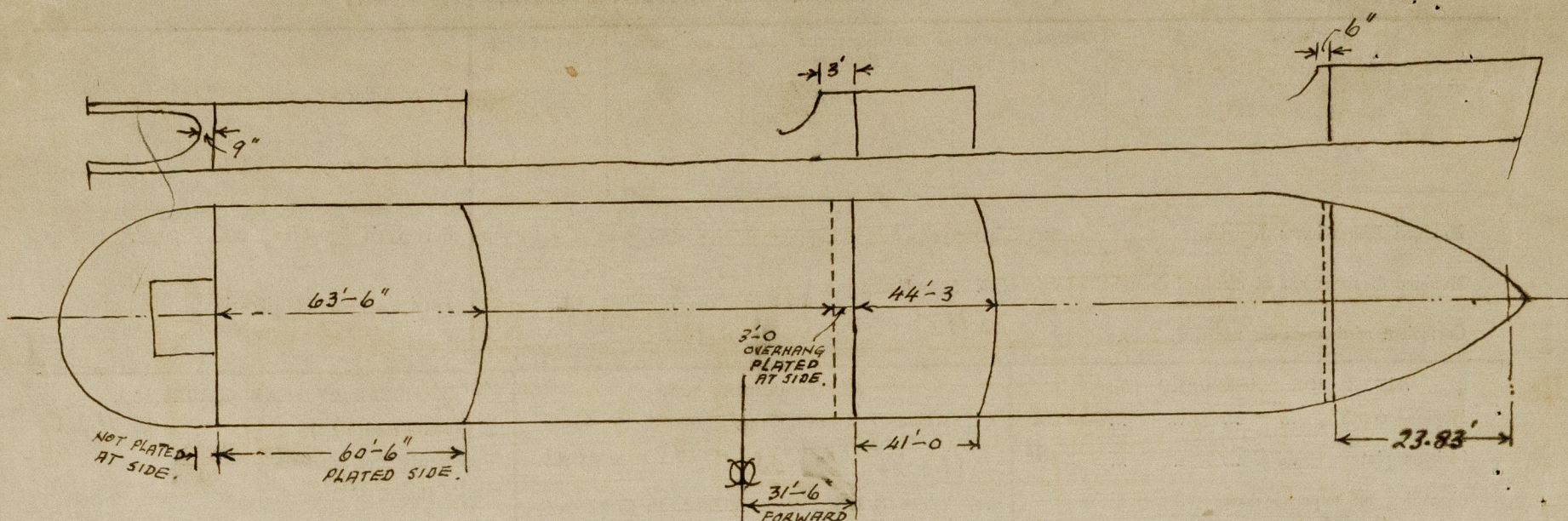
Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard. Depth to Freeboard Deck = <i>28.86</i> Summer freeboard = <i>5.58</i> Moulded draught (d) = <i>23.28</i> Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>5.82 = 5\frac{3}{4}</i> Addition for Winter North Atlantic Freeboard (if required) =	Deduction for Fresh Water. Displacement in salt water at summer load water line $\Delta = 3930$ Tons per inch immersion at summer load water line $T = 36.95$ Deduction = $\frac{\Delta}{40T}$ inches = <i>6.04 = 6"</i> EXT. Δ @ 23'-0" = 8780 TPI = 36.8 " " @ 23'-6" = 9000 TPI = 37.0	TABULAR FREEBOARD corrected for Flush Deck (if required) Correction for coefficient $\frac{754 + .68}{1.36} = 1.434 / 1.36$ Depth Correction ... <i>13.35</i> Deduction for superstructures ... <i>9.18</i> Sheer correction ... <i>.01</i> Round of Beam correction ... <i>.02</i> Correction for Thickness of Deck amidships ... Other corrections, scantlings, etc. ... Summer Freeboard = <i>67.04</i>
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, W. & Steel, Deck :-

Tropical Fresh Water Line above Centre of Disc ...	<i>11 3/4"</i>	Tropical Fresh Water Freeboard	<i>5'-7"</i>
Fresh Water Line " " ...	<i>6"</i>	Fresh Water	<i>4'-7 1/4"</i>
Tropical Line " " ...	<i>5 3/4"</i>	Tropical	<i>5'-1 1/4"</i>
Winter Line below " " ...	<i>5 3/4"</i>	Winter	<i>6'-0 3/4"</i>
Winter North Atlantic Line " " ...	<i>-</i>	Winter North Atlantic	<i>-</i>

Cyrena.

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.



Equivalent bulkhead.

2nd Bridge

$$\begin{array}{r} 60.5 \\ 2 \\ \hline 62.5 \end{array} \quad \frac{2}{3} \times 3$$

o'hang aft 75.

Midship Bridge

$$\begin{array}{r} 41.0 \\ 2.17 \\ \hline 43.17 \end{array} \quad \frac{2}{3} \quad 3'-3''$$

o'hang aft 3.0.

Trade of ship *Case oil carrier*

Names of sister ships *✓*

Builder's name and yard number *Messrs Smiths Dock Co Ltd. Southbank-on-Tees Yard No 1160.*

Owners *Anglo Saxon Petroleum Co.*

Fee £ *will be charged with 1st entry.*

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