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(For London Office only.)

## Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD. MoB. Rpt No. 19204.

(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

*ATHEL SULTAN* *183804* *BRITISH* *9149* *1951* *MIDDLESBROUGH* *WHILE BUILDING* *J.D. Rufus* *+ 100 A.1.*  
(CARRYING MOLASSES OR PETROLEUM IN BULK) (CONTEMPLATED)

Moulded Dimensions: Length *465'-11"* Breadth *63'-3 1/2"* Depth *34'-7 7/8"*  
(To  $\frac{1}{2}$  OF DECK)  
Moulded displacement at moulded draught = 85 per cent. of moulded depth *18,940* tons  
Coefficient of fineness for use with Tables *763* ✓

**DEPTH FOR FREEBOARD (D).**  
Moulded depth ... *34'-6 5/8"* *34'-6 1/2"*  
Stringer plate ... *-7.6"* ... *.06*  
Sheathing on exposed deck ...  
 $T \left( \frac{L-S}{L} \right) =$  ✓  
Depth for Freeboard (D) = *34'-7 1/2"* ✓

**DEPTH CORRECTION.**  
(a) Where D is greater than Table depth  
(D - Table depth) R = *(34'-7 1/2" - 31'-0 6/8") 3 = + 10.98"* ✓  
(b) Where D is less than Table depth (if allowed)  
(Table depth - D) R = ✓  
If restricted by superstructures ✓

**ROUND OF BEAM CORRECTION.**  
Moulded Breadth (B) *24'-6 5/8"* *63'-29"*  
Standard Round of Beam =  $\frac{B \times 12}{50} = 15.19$  ✓  
Ship's Round of Beam *1'* = *15 1/2"* ✓  
Difference *31"* ✓  
Restricted to  
Correction =  $\frac{\text{Diff.}}{4} \times \left( 1 - \frac{S}{L} \right) = \frac{31}{4} \times \left( 1 - \frac{31}{465} \right) = 7.5' - .05" ✓$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>i</sub> )	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equin.</i>	<i>119.17</i> ✓	<i>119.17</i> ✓	<i>8.5'</i> ✓	✓	<i>119.17</i> ✓
" overhang	<i>4.5</i> ✓				
R.Q.D. enclosed					
" overhang	<i>36.17</i> ✓				
Bridge enclosed <i>Equin.</i>	<i>36.17</i> ✓	<i>36.17</i> ✓	<i>8.5'</i> ✓	✓	<i>36.17</i> ✓
" overhang aft	<i>4.75</i> ✓	<i>3.56</i> ✓			<i>3.56</i> ✓
" overhang forward	<i>4.5</i> ✓				
F'cle enclosed	<i>35.5</i> ✓	<i>35.50</i> ✓	<i>8'-0"</i> ✓	✓	<i>35.50</i> ✓
" overhang					
Trunk aft					
" forward					
Tonnage opening aft					
" " forward					
Total	<i>195.59</i> ✓	<i>194.40</i> ✓			<i>194.40</i> ✓

Standard Height of Superstructure *7.5'* ✓

" " R.Q.D. ✓

Deduction for complete superstructure *42.00* ✓Percentage covered  $\frac{S}{L} = 41.98$  ✓
 $\frac{S_i}{L} =$   
 $\frac{E}{L} =$   
 $\frac{E}{L} = 41.73$  ✓
Percentage from Table, Line A. *TANKER* *32.73* ✓  
(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 = *42.00 + 32.73 = - 13.75"* ✓

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<i>56.59</i>	1		<i>56.59</i>	<i>72.2"</i>	<i>72.20</i>	1		<i>72.20</i>
$\frac{1}{2}$ L from A.P.	<i>25.18</i>	4		<i>100.72</i>	<i>32.3"</i>	<i>32.30</i>	4		<i>129.20</i>
$\frac{3}{8}$ L	<i>6.225</i>	2		<i>12.45</i>	<i>8.4"</i>	<i>8.40</i>	2		<i>16.80</i>
Amidships	✓	4		✓	0	✓	4		✓
$\frac{3}{8}$ L from F.P.	<i>12.45</i>	2		<i>24.90</i>	<i>13.65"</i>	<i>13.65</i>	2		<i>27.30</i>
$\frac{1}{2}$ L	<i>50.36</i>	4		<i>201.44</i>	<i>53.30"</i>	<i>53.30</i>	4		<i>213.20</i>
F.P.	<i>113.18</i>	1		<i>113.18</i>	<i>120.90"</i>	<i>120.90</i>	1		<i>120.90</i>
Total				<i>509.28</i>					<i>579.60</i>

Correction =  $\frac{\text{Difference between sums of products}}{18} = \frac{70.32}{18} = 3.91$  ✓  
If limited on account of midship superstructure.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 " = *TANKER*

## Deduction for Tropical Freeboard.

## Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = *34'-7 1/2"*  
 Summer freeboard = *6.58*  
 Moulded draught (d) = *28'-14"*

## Deduction for Tropical freeboard and addition for

Winter freeboard =  $\frac{d}{4}$  inches = *7.04 = 7"* ✓Addition for Winter North Atlantic Freeboard (if required) = *7.04 + 4.66 = 11.70 = 11 3/4"* ✓

## Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta = 18113$  ✓

Tons per inch immersion at summer load water line

T = *60.37* ✓Deduction =  $\frac{\Delta}{40 T}$  inches= *7.52 = 7 1/2"* ✓ $\Delta 29'0$  Draught *18,650 TPI = 60.62* $\Delta 27'0$  " *14,225 TPI = 59.98*

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

Correction for coefficient  $\frac{763 \times 68}{136} = \frac{1443}{136} = 10.59$  ✓Depth Correction ... *10.98* ✓Deduction for superstructures ... *13.75* ✓Sheer correction ... *2.11* ✓Round of Beam correction ... *.05* ✓

Correction for Thickness of Deck amidships ... ✓

Other corrections, scantlings, etc. ... ✓

Summer Freeboard = *79.09* ✓

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

Tropical Fresh Water Line above Centre of Disc	<i>14 1/2"</i> ✓
Fresh Water Line	<i>7 1/2"</i> ✓
Tropical Line	<i>7"</i> ✓
Winter Line below	<i>7"</i> ✓
Winter North Atlantic Line	<i>11 1/4"</i> ✓

Tropical Fresh Water Freeboard

Fresh Water

Tropical

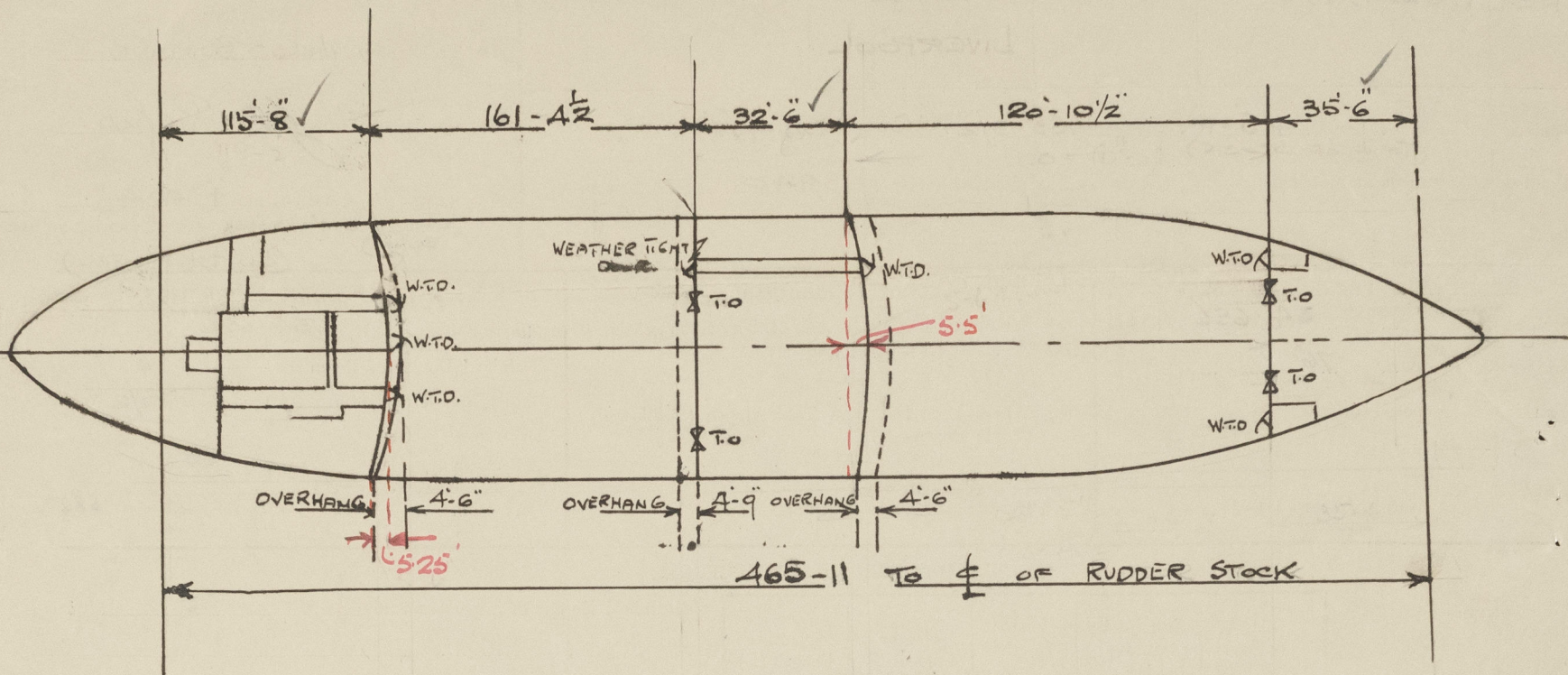
Winter

Winter North Atlantic



# Athelsultan.

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.



POOP.

$$\begin{aligned} \text{Length at side} &= 115.67' \\ + \frac{2}{3} \times 5.25' &= 3.50' \\ \hline &= 119.17' = \text{Equin Bhol.} \end{aligned}$$

BRIDGE -

$$\begin{aligned} \text{Length at side} &= 32.5' \\ + \frac{2}{3} \times 5.5' &= 3.67' \\ \hline &= 36.17' = \text{Equin Bhol.} \end{aligned}$$

No allowance for overhang fwd. as there is a W.P. in the side shell.

Trade of ship OCEAN GOING. TANKER.

Names of sister ships —

Builder's name and yard number SMITH'S DOCK CO. LTD. SOUTH BANK-ON-TEES. NO 1210

Owners ATHEL. LINES. LTD. BROOK HOUSE, PARK LANE. LONDON W.1.

Fee £ With first entry.



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