

As a Tanker.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker
having Forecastle - Trunk - R.Q.D.

Port of Survey _____
Date of Survey 1-4-32
Name of Surveyor _____
Particulars of Classification +100A.1
Carrying Petroleum in Bulk

Ship's Name <u>M.V. CALDERGATE</u>	Nationality and Port of Registry	Official Number	Gross Tonnage <u>138</u>	Date of Build <u>1926</u>
---------------------------------------	----------------------------------	-----------------	-----------------------------	------------------------------

Moulded Dimensions: Length 97.0 Breadth 17.125 Depth 8.54
Moulded displacement at moulded draught = 85 per cent. of moulded depth _____ tons
Coefficient of fineness for use with Tables 75 assumed

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>8.54</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(8.56 - 6.47) x .746 = +1.56</u>	Moulded Breadth (B) <u>17.125</u> Standard Round of Beam = $\frac{B \times 12}{50} = 4.11$ Ship's Round of Beam = <u>4.50</u> Difference = <u>.39</u>
Stringer plate <u>.02</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Difference
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Restricted to
Depth for Freeboard (D) = <u>8.56</u>		Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.39}{4} \left(1 - \frac{.8228}{17.125} \right) = .02$

DEDUCTION FOR SUPERSTRUCTURES.

Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed				
„ overhang				
R.Q.D. enclosed <u>29.75</u>	<u>29.75</u>	<u>2'-6"</u>	<u>$\frac{2.56}{3.00}$</u>	<u>24.79</u>
„ overhang				
Bridge enclosed... ..				
„ overhang aft				
„ overhang forward				
F'cle enclosed <u>12.50</u>	<u>12.50</u>	<u>2'-6"</u>	<u>$\frac{2.50}{6.00}$</u>	<u>5.21</u>
„ overhang				
Trunk aft <u>54.75</u> <u>17.12</u>	<u>38.09</u>	<u>2'-6"</u>	<u>$\frac{2.50}{6.00}$</u>	<u>15.87</u>
„ forward				
Tonnage opening aft				
„ „ forward				
Total <u>42.25</u>	<u>80.34</u>			<u>45.87</u>

Standard Height of Superstructure 6'-0"
„ „ R.Q.D. 3'-0"
Deduction for complete superstructure 15.7
Percentage covered $\frac{S}{L} = 43.55$
„ „ $\frac{S_1}{L} = 82.83$
„ „ $\frac{E}{L} = 47.28$
Percentage from Table, Line A.
(corrected for absence of forecastle (if required))
Percentage from Table, Line B. 38.28
(corrected for absence of forecastle (if required))
Interpolation for bridge less than 2L (if required)
Deduction = 15.7 x .3828 = -6.01

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>19.70</u>	1		<u>19.70</u>	<u>15.00</u>	<u>15.00</u>	1		<u>15.00</u>
$\frac{1}{4}L$ from A.P.	<u>8.77</u>	4		<u>35.08</u>	<u>6.81</u>	<u>6.81</u>	4		<u>27.24</u>
$\frac{2}{4}L$ „	<u>2.17</u>	2		<u>4.34</u>	<u>-1.70</u>	<u>1.70</u>	2		<u>3.40</u>
Amidships	-	4		-	-	-	4		-
$\frac{3}{4}L$ from F.P.	<u>4.33</u>	2		<u>8.66</u>	<u>4.05</u>	<u>4.05</u>	2		<u>8.10</u>
$\frac{1}{4}L$ „	<u>17.54</u>	4		<u>70.16</u>	<u>16.19</u>	<u>16.19</u>	4		<u>64.76</u>
F.P.	<u>39.40</u>	1		<u>39.40</u>	<u>36.00</u>	<u>36.00</u>	1		<u>36.00</u>
Total				<u>177.34</u>					<u>154.50</u>

Mean actual sheer aft = deficient
Mean standard sheer aft = _____
Mean actual sheer forward = deficient
Mean standard sheer forward = _____
Length of enclosed superstructure forward of amidships = _____
„ „ aft of „ = _____

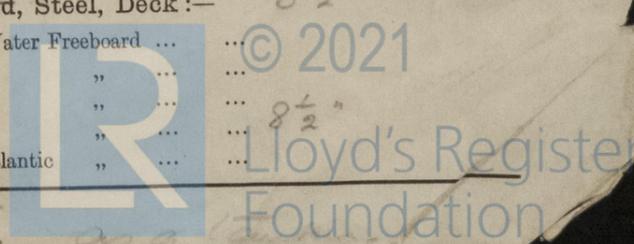
Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{22.84}{18} \left(\frac{.75 - .2177}{.5323} \right) = +.67$
If limited on account of midship superstructure.
If limited to maximum allowance of 1 1/2 ins. per 100 ft.

<p>Deduction for Tropical Freeboard. Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>8.56</u> Ft. Summer freeboard = <u>.54</u> Moulded draught (d) = <u>8.02</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>2.02</u> Addition for Winter North Atlantic Freeboard (if required) = _____</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line $\Delta =$ Tons per inch immersion at summer load water line $T =$ Deduction = $\frac{\Delta}{40T}$ inches = _____</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient <u>.75 + .68</u> <u>1.36</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction</td> <td><u>1.56</u></td> <td>-</td> </tr> <tr> <td>Deduction for superstructures</td> <td>-</td> <td><u>6.01</u></td> </tr> <tr> <td>Sheer correction</td> <td><u>.67</u></td> <td>-</td> </tr> <tr> <td>Round of Beam correction</td> <td>-</td> <td><u>.02</u></td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td>-</td> <td>-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td>-</td> <td>-</td> </tr> <tr> <td></td> <td><u>2.23</u></td> <td><u>6.03</u></td> </tr> </table> <p>Summer Freeboard = <u>6.40</u></p>		+	-	Depth Correction	<u>1.56</u>	-	Deduction for superstructures	-	<u>6.01</u>	Sheer correction	<u>.67</u>	-	Round of Beam correction	-	<u>.02</u>	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		<u>2.23</u>	<u>6.03</u>
	+	-																								
Depth Correction	<u>1.56</u>	-																								
Deduction for superstructures	-	<u>6.01</u>																								
Sheer correction	<u>.67</u>	-																								
Round of Beam correction	-	<u>.02</u>																								
Correction for Thickness of Deck amidships	-	-																								
Other corrections, scantlings, etc.	-	-																								
	<u>2.23</u>	<u>6.03</u>																								

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

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

Left from 1906 { S = +2 3/4
W = +3 1/4



610405-010415-0147