

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

(COMPUTATION FOR ~~STEAMER~~, ~~SAILING SHIP~~, TANKER.)

11 APR 1951

Ship's Name <i>Donna Maria</i> BOLLSTA.	Official Number	Nationality and Port of Registry <i>NORWEGIAN.</i> <i>OSLO.</i> <i>Hebruan</i>	Gross Tonnage <i>16405</i>	Date of Build <i>1951</i>	Port of Survey <i>GLASGOW.</i>
Moulded Dimensions: Length <i>581.0'</i> ✓ Breadth <i>78.0'</i> ✓ Depth <i>42.5'</i> ✓					Date of Survey <i>WHILST BUILDING.</i>
Moulded displacement at moulded draught = 85 per cent. of moulded depth <i>37,222</i> ✓ tons					Surveyor's Signature <i>George Fullerton.</i>
Coefficient of fineness for use with Tables <i>.796</i> ✓					Particulars of Classification <i>100 A1.</i> <i>CARRYING PETROLEUM IN BULK.</i>

DEPTH FOR FREEBOARD (D).	DEPTH CORRECTION.	ROUND OF BEAM CORRECTION.
Moulded depth ... <i>42.5'</i>	(a) Where D is greater than Table depth (D - Table depth) R = <i>(42.60 - 38.73) 3 = +11.61"</i> ✓	Moulded Breadth (B) <i>78.0'</i> ✓
Stringer plate ... <i>1.15"</i> <i>1.16</i> ... <i>.75</i> <i>.10</i>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R = ✓	Standard Round of Beam = $\frac{B \times 12}{50} = \frac{78.0 \times 12}{50} = 18.72$ ✓
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = \text{NIL.}$	If restricted by superstructures ✓	Ship's Round of Beam = <i>18"</i> ✓
Depth for Freeboard (D) = <i>42.60</i>		Difference = <i>0.72</i> ✓
		Restricted to
		Correction = $\frac{\text{Diff.}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{0.72}{4} \times .5935 = \frac{0.72}{4} \times .5935 = +.11$ ✓

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>CENTRE SIDE</i> ...	<i>116.0</i> <i>124.33</i>	<i>124.33</i>	<i>8.0'</i>		<i>124.33</i>
" overhang ...	-	-	-	-	-
R.Q.D. enclosed ...	-	-	-	-	-
" overhang ...	-	-	-	-	-
Bridge enclosed <i>CENTRE SIDE</i> ...	<i>47.3</i> <i>35.0</i>	<i>42.22</i>	<i>8.0'</i>		<i>42.22</i>
" overhang aft ...	<i>48.5</i> <i>3.65</i>	<i>3.65</i>			<i>3.65</i>
" overhang forward ...	-	-	-	-	-
F'cle enclosed ...	<i>66.0</i>	<i>66.00</i>	<i>8.0'</i>		<i>66.00</i>
" overhang ...	-	-	-	-	-
Trunk aft ...	-	-	-	-	-
" forward ...	-	-	-	-	-
Tonnage opening aft ...	-	-	-	-	-
" " forward ...	-	-	-	-	-
Total ...	<i>237.42</i>	<i>236.20</i>			<i>236.20</i>

Standard Height of Superstructure <i>7.50</i> ✓
" " R.Q.D. ✓
Deduction for complete superstructure <i>42"</i> ✓
Percentage covered $\frac{S}{L} = \frac{40.86}{L}$ ✓
" " $\frac{S_1}{L} = \frac{40.65}{L}$ ✓
" " $\frac{E}{L} = \frac{31.65}{L}$ ✓
Percentage from Table, Line <i>TANKER</i> <i>31.65</i> ✓
(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 = $42 \times .3165 = -13.29"$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>68.10</i>	1		<i>68.10</i>	<i>60.75</i>	<i>60.75</i>	1		<i>60.75</i>
$\frac{1}{4}$ L from A.P. ...	<i>30.305</i>	4		<i>121.22</i>	<i>11.75</i>	<i>11.125</i>	4		<i>44.50</i>
$\frac{2}{4}$ L " ...	<i>7.49</i>	2		<i>14.98</i>	<i>NIL</i>	-	2		-
Amidships ...	-	4		-	<i>NIL</i>	-	4		-
$\frac{3}{4}$ L from F.P. ...	<i>14.98</i>	2		<i>29.96</i>	<i>NIL</i>	-	2		-
$\frac{1}{4}$ L " ...	<i>60.61</i>	4		<i>242.44</i>	<i>22.75</i>	<i>22.875</i>	4		<i>91.50</i>
F.P. ...	<i>136.20</i>	1		<i>136.20</i>	<i>126.00</i>	<i>126.00</i>	1		<i>126.00</i>
Total ...				<i>612.90</i>					<i>322.75</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{290.15}{18} \left(.75 - \frac{204.3}{2 \times 42} \right) = +8.8"$ ✓

If limited on account of midship superstructure. 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>42.60</i>
Summer freeboard = <i>10.08</i>
Moulded draught (d) = <i>32.52</i>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <i>8.13</i> = <i>8.14</i> ✓
Addition for Winter North Atlantic Freeboard (if required) = <i>8.13 + 5.81 = 13.94</i> ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line $\Delta = 33,140.3$ ✓
Tons per inch immersion at summer load water line $T = 94.92$ ✓
Deduction = $\frac{\Delta}{40 T}$ inches = $\frac{33,140.3}{40 \times 94.92} = 8.72 = 8.74$ ✓

TABULAR FREEBOARD corrected for Flush Deck (if required)

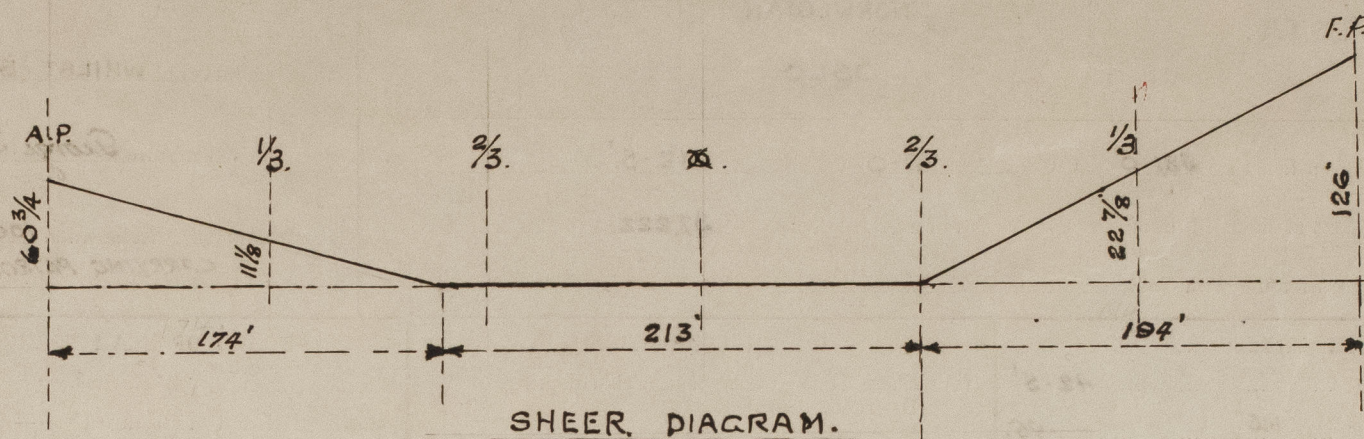
Correction for coefficient $\frac{.68 + .796}{1.36} = \frac{1.476}{1.36}$			
Depth Correction ...	<i>11.61</i>		
Deduction for superstructures ...		<i>13.29</i>	
Sheer correction ...	<i>8.80</i>		
Round of Beam correction ...	<i>.11</i>		
Correction for Thickness of Deck amidships ...			
Other corrections, scantlings, etc. ...			
	<i>20.52</i>	<i>13.29</i>	<i>+ 7.23</i>
Summer Freeboard = <i>120.98</i> ✓			

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

Tropical Fresh Water Line above Centre of Disc <i>17"</i> = <i>432 mm</i>	Tropical Fresh Water Freeboard <i>8'-8"</i> = <i>2641 mm.</i>
Fresh Water Line " <i>8.74"</i> = <i>222 mm</i>	Fresh Water " <i>9'-4.4"</i> = <i>2851 mm.</i>
Tropical Line " <i>8.74"</i> = <i>210 mm</i>	Tropical " <i>9'-4.4"</i> = <i>2863 mm.</i>
Winter Line below " <i>8.74"</i> = <i>210 mm</i>	Winter " <i>10'-9.4"</i> = <i>3283 mm.</i>
Winter North Atlantic Line " <i>1.4"</i> = <i>356 mm</i>	Winter North Atlantic " <i>11'-3"</i> = <i>3429 mm.</i>

Donna Maria Bollsta.

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.



EXTREME DRAFT.	EXTERNAL DISPLACEMENT.	T.P.L.
32'-0"	32,548 TONS.	94.65.
33'-0"	33,687 TONS.	95.17.

$$\text{POOP} = 116 + \left(\frac{2}{3} \times 12.5\right) = 124.33$$

$$\text{BRIDGE} = 35.00 \text{ (AT SIDE)} + \frac{\frac{2}{3} \times 12.5 = 8.33}{43.33 \times \frac{76}{78}} = 42.22 = \text{EQUIV.}$$

$$\text{OVERHANG (AFT)} = 5 \times \frac{76}{78} = 4.87$$

FREEBOARD REQUEST FORM FORWARDED HEREWITH.

Trade of ship INTERNATIONAL. ✓
 Names of sister ships "BOLETTE." ✓
 Builder's name and yard number HARLAND & WOLFF, LD. GLASGOW. YARD. NO 1419. G. ✓
 Owners FRED OLSEN & Co.
 Fee £ WILL BE CHARGED WITH FIRST ENTRY.

PLANS FORWARDED:- MIDSHIP SECTION, PROFILE, DECKS. ALSO FREEBOARD APPLICATION.



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