

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index No. **33386**
(For London Office only.)

15 OCT 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having a poop, bridge & fore-castle

(Type of Superstructures.)

Ship's Name "OTHANDER" Nationality and Port of Registry Norwegian Fredrikstad Official Number 1873 Gross Tonnage 4326 Date of Build 1917

Moulded Dimensions: Length 251 Breadth 43.5 Depth 20' 2 1/2"
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables .801 tons

Port of Survey Fredrikstad
Date of Survey 3/10 & 4/10/32
Name of Surveyor Plende
Particulars of Classification S.S. 7. 7/8. N. 23 - 8.29

Depth for Freeboard (D)

Moulded depth 20.37
Stringer plate04
Sheathing on exposed deck
 $T \left(\frac{L-S}{L} \right) =$ ✓
Depth for Freeboard (D) = 20.41

Depth correction

(a) Where D is greater than Table depth
(D - Table depth) R =
 $(20.41 - 16.73) 1.931 = +7.11$ ✓
(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) 43.50
Standard Round of Beam = $\frac{B \times 12}{50} = 10.44$
Ship's Round of Beam = 12.0
Difference 1.56
Restricted to
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{1.56}{4} \times .5432 = -.21$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>24.2</u>	<u>24.20</u>	<u>7.0</u>	✓	<u>24.20</u>
" overhang ...	<u>2.3</u>	<u>1.15</u>	✓		<u>1.15</u>
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	<u>64.0</u>	<u>64.00</u>	<u>7.0</u>	✓	<u>64.00</u>
" overhang aft ...	<u>.5</u>	<u>.37</u>	✓		<u>.37</u>
" overhang forward ...	<u>.5</u>	<u>.25</u>	✓		<u>.25</u>
F'cle enclosed ...	<u>26.0</u>	<u>26.00</u>	<u>7.0</u>	✓	<u>26.00</u>
" overhang ...	<u>2.3</u>	<u>1.15</u>	✓		<u>1.15</u>
Trunk aft ...					
" forward ...					
Tonnage opening aft ...	<u>70.3</u>				
" " forward ...	<u>66.5</u>				
Total ...	<u>261.0</u>	<u>117.12</u>			<u>117.12</u>

Standard Height of Superstructure 6.01" " R.Q.D. ✓
Deduction for complete superstructure 31.10Percentage covered $\frac{S}{L} = 47.73\%$ ✓" " $\frac{S_1}{L} = 46.66\%$ ✓" " $\frac{E}{L} = 46.66\%$ ✓

Percentage from Table, Line A. ✓

(corrected for absence of fore-castle (if required)) ✓

Percentage from Table, Line B. ✓

(corrected for absence of fore-castle (if required)) ✓

Interpolation for bridge less than 2L (if required) ✓

Deduction = $31.10 \times .3316 = -10.31$ ✓

measured aloft SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>35.10</u>	1		<u>35.10</u>	<u>34.9"</u>	<u>38.50</u>	<u>38.50</u>	1	<u>38.50</u>
1/4 L from A.P. ...	<u>15.62</u>	4		<u>62.48</u>	<u>13"</u>	<u>10.00</u>	<u>10.00</u>	4	<u>40.00</u>
3/4 L " ...	<u>3.86</u>	2		<u>7.72</u>	<u>3"</u>	<u>-.75</u>	<u>-.75</u>	2	<u>-1.50</u>
Amidships ...	✓	4		✓	✓	✓	✓	4	✓
1/4 L from F.P. ...	<u>7.72</u>	2		<u>15.44</u>	<u>9"</u>	<u>10.25</u>	<u>9.83</u>	2	<u>19.66</u>
3/4 L " ...	<u>31.24</u>	4		<u>124.96</u>	<u>37"</u>	<u>32.75</u>	<u>32.50</u>	4	<u>130.00</u>
F.P. ...	<u>70.20</u>	1		<u>70.20</u>	<u>72"</u>	<u>74.50</u>	<u>73.78</u>	1	<u>73.78</u>
Total ...				<u>315.90</u>					<u>300.44</u>

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

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 = 20.41Summer freeboard = 2.71Moulded draught (d) = 17.70

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = $4.42 = 4\frac{1}{2}$

Addition for Winter North Atlantic Freeboard (if required) =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

 $\Delta =$

Tons per inch immersion at summer load water line

T =

Deduction = $\frac{\Delta}{40 T}$ inches= not available

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.801 + .68}{1.36} = \frac{1.481}{1.36}$ Depth Correction 7.11 ✓Deduction for superstructures ✓ 10.31 ✓Sheer correction -.44 ✓Round of Beam correction ✓ -.21 ✓Correction for Thickness of Deck amidships ✓ ✓Other corrections, scantlings, etc. ✓ ✓

7.55 10.52 -2.97

Summer Freeboard = 32.43

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

Tropical Fresh Water Line above Centre of Disc

Fresh Water Line " "

Tropical Line " "

Winter Line below " " 4 1/2" = 114 7/8"

Winter North Atlantic Line " "

Tropical Fresh Water Freeboard

Fresh Water " "

Tropical " "

Winter " " 3' - 1" = 939 7/8"

Winter North Atlantic " "

and ventilator coverings:— *Fidley opening on top of casing, 7'3" above bridge deck, closed by steel hinged covers, in good condition. Funnel & ventilator coverings in good condition.*

Two port cones in bridge tween decks, 16½" dia; cast iron.
Further particulars not available owing to coal in bunkers.

one on poop: 6'-8 $\frac{1}{2}$ " x 3'-9 $\frac{1}{2}$ " x 6'-2", steel of substantial construction.
Opening 4'-8 $\frac{1}{2}$ " x 2'-6". Sill 1 $\frac{3}{4}$ ", 1 $\frac{3}{4}$ " wood door

Bridge . Two square derr

Three 18" x 30" x 34".

loop six P.S. 6"-7"

all

Forecastle: one $3\frac{1}{2}" \times 2\frac{1}{2}"$.

Bridge deck: one post $3\frac{1}{2}'' \times 4''$. one str. $3'' \times 4''$; one str.

POOP : one $3\frac{1}{2}'' \times 4\frac{1}{2}''$. All have means of closing

5 and Coaling Ports :—

hone

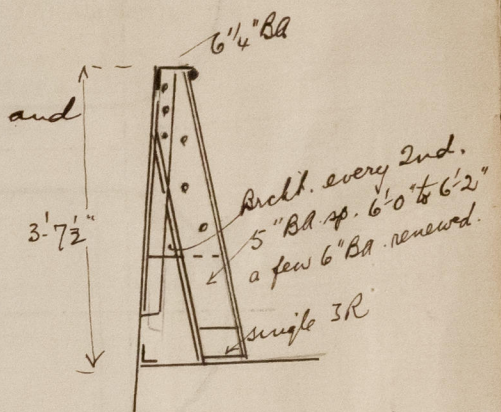
Sanitary discharges: From saloon & officer house

Types from wash binned led overboard 12" above upper deck, into P.T.S., no storm valve.
From crew space, one P.T.S. led overboard 12" above upper deck, with storm valve.

In poop, fitted with hinged deadlights.

Foecastle, bridge span:
 tranchions 3' 3", spaced 4'-0" to 4'-7 1/2". 3 rails on poop bridge
 4 -- " f/cle.

No gangway.
Ladder from bridge aft end at E, down to N^o 3 hatchway, and
" " " poop for " " " " " " " "



Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	70.3	3' 7½"	3' 7½" x 1' 7"	4	22.9	14.1
Forward Well	66.5	3' 7½"	3' 7½" x 1' 7"	3	17.1	13.3

State position of each freeing port *from bridge end*, (F. and A. position and height above deck edge) } Forward Well:— 8' 4" 33' 0" 57' 6" & 66' 0"
 } Forward Well:— 10' 9" 28' 9" 27' 0".

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

*15" above dk. edge
 4 vertical bars.*

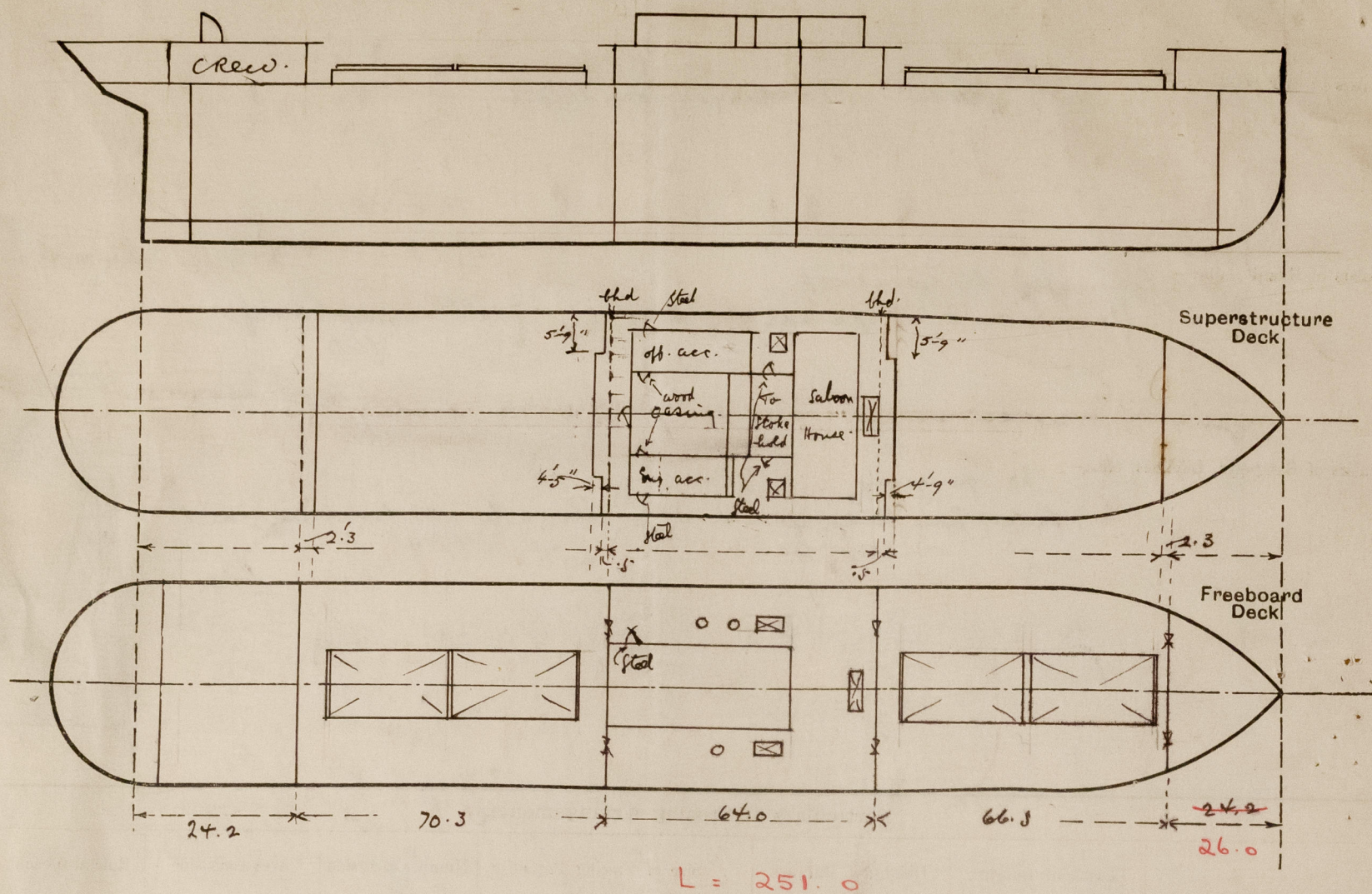
Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	none	28"	not available	31" - 32"	not available	none	✓	7'-0"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	none	26" - 28"	4" x 3" x .40" o.a.	31"	none	4' 9 1/2" x 3'-1"	18 1/2"	7'-0"
Bridge, Forward Bulkhead	none	26" - 30"	7 1/4" x 3 1/4" x .28" C	31"	Bracket type bottom cleat, wing of bridge deck back	4' 9 1/2" x 3'-1"	18 1/2"	7'-0"
Forecastle Bulkhead	none	30"	5 3/4" x 3" x .48" o.a.	27 1/4" - 31"	none	4'-1 1/2" x 3'-1"	18 1/2"	7'-0"
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Super-structure Decks	none	26"	3" x 3" x .32" o.a.	29"	Bracket at top. Cord. at bottom	5'-6" - 1'-0 1/2"	18 1/2"	7'-3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	10 1/2" x 36"	26"	3" x 3" x .32" o.a.	29"	Cord. from top over. at bottom	4' 8 1/2" x 1'-6 1/2" post only	18 1/2"	7'-0"
Deckhouses on Flush Deck Ships ...								

Poop Bulkhead	...	✓	
Raised Quarter Deck Bulkhead	...		
Bridge, After Bulkhead	...		Steel bolted plate, P.O.S., opening from outside only.
Bridge, Forward Bulkhead	...		Steel hinged bolted doors, opening from both sides, rubber packed.
Forecastle Bulkhead	...		Steel bolted plate, P.O.S., opening from outside only, hook bolts sp. 9"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	...		
(Exposed) Machinery Casings on Superstructure Decks	...		at aft end of E.R. casing, 1 steel hinged door; 1 steel hinged door, P.O.S. to stowhold
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...		at aft end port side, 1 steel hinged door, opening from both sides
Deckhouses on Flush Deck Ships	...		

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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shown on the following sketches:—



State any special features in the construction of the ship:—

*A few bulwark stanchions renewed
brackets for lashings fitted.*

The present freeboards as per N.V. certificate
issued 2/6/30

F.W. 2'-3"
T. 2'-14 1/2"
S. 2'-7 1/2"
W. 2'-10 1/2"
W.N.A. 3'-0 1/2"
B. of T. S. 2'-8 1/2"

A timber cargo freeboard
assignment is also desired.

*The survey was held
afloat*

Builder's name and yard number *The Chicago Shipbuilding Co. L Chicago Ill. U.S.A.*

Names of sister ships

Owners *M/S Othander (H. Th. Wilkens & Co. A/S) Fredrikstad*

Fee *kr. 170. —*
+ expenses.

Received by me



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