

Rpt. C.11.

Report N° 3906

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

18 OCT 1932

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, ~~Sailing Ship~~, Tanker

having poop, bridge, forecastle

(Type of Superstructures.)

Ship's Name <b>s/s "OTHANDER"</b>	Nationality and Port of Registry <b>Norwegian Fredrikstad</b>	Official Number <b>1873</b>	Gross Tonnage <b>1917</b>	Date of Build <b>1917</b>
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Moulded Dimensions: Length **251** ✓ Breadth **43.5** ✓ Depth **20' 2 1/4"** ✓

Moulded displacement at moulded draught = 85 per cent. of moulded depth **4326** ✓ tons

Coefficient of fineness for use with Tables **.801** ✓

Port of Survey **Fredrikstad**

Date of Survey **3/10 - 4/10/32**

Name of Surveyor **P. Aude**

Particulars of Classification **100 A1**  
**S.S. N.Y.K. N° 3-8, 29** ✓

<b>Depth for Freeboard (D)</b> Moulded depth ... .. <b>20.37</b> Stringer plate ... .. <b>.04</b> Sheathing on exposed deck $T \left( \frac{L-S}{L} \right) =$ ✓ Depth for Freeboard (D) = <b>20.41</b> ✓	<b>Depth correction</b> (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 ✓	<b>Round of Beam correction</b> Moulded Breadth (B) <b>43.50</b> Standard Round of Beam = $\frac{B \times 12}{50} =$ <b>10.44</b> ✓ Ship's Round of Beam = <b>12.0</b> Difference <b>1.56</b> Restricted to Correction = $\frac{\text{Diff}^2}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{1.56^2}{4} \times .5432 = .21$ ✓
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### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	<del>23.50</del> <b>23.50</b>	23.50	7'-0"	✓	23.50	
" overhang ...	2.25	1.12			1.12	
R.Q.D. enclosed ...						
" overhang ...						
Bridge enclosed...	<b>62.1</b>	62.10	7'-0"	✓	62.10	
" overhang aft ...	.5	.37			.37	
" overhang forward	.5	.25			.25	
F'cle enclosed ...	<b>26.58</b>	26.58	7'-0"	✓	26.58	
" overhang ...	1.5	.75			.75	
Trunk aft ...						
" forward ...						
Tonnage opening aft ...						
" " forward						
Total ...	<b>116.93</b>	<b>114.67</b>			<b>114.67</b>	

Standard Height of Superstructure **6.01** ✓

" " R.Q.D. ✓

Deduction for complete superstructure **31.10** ✓

Percentage covered  $\frac{S}{L} =$  **46.59%** ✓

" "  $\frac{S_1}{L} =$  **45.68%** ✓

" "  $\frac{E}{L} =$  **45.68%** ✓

Percentage from Table, Line A. ✓

(corrected for absence of forecastle (if required)) ✓

Percentage from Table, Line B. **32.32%** ✓

(corrected for absence of forecastle (if required)) ✓

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

Deduction = **31.10 × .3232 = - 10.05** ✓

### MEASURED SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	35.10	1		35.10	38	38.50	38.50	1	38.50	
1/4 L from A.P. ...	15.62	4		62.48	22	10.00	10.00	4	40.00	
2/4 L " ...	3.86	2		7.72	1	-.75	-.75	2	-1.50	
Amidships ...	✓	4		✓	-	✓	✓	4	✓	
2/4 L from F.P. ...	7.72	2		15.44	29	10.25	9.83	2	19.66	
1/4 L " ...	31.24	4		124.96	52	32.75	32.50	4	130.00	
F.P. ...	70.20	1		70.20	80	74.50	73.78	1	73.78	
Total ...				<b>315.90</b>					<b>300.44</b>	

Mean actual sheer aft = **Deficient 70.84%** ✓

Mean standard sheer aft = **Deficient 70.84%** ✓

Mean actual sheer forward = **Excess** [to find to use = 83.36%] ✓

Mean standard sheer forward = **Excess** [to find to use = 83.36%] ✓

Length of enclosed superstructure forward of amidships = } **Deficient**  
" " aft of " = } **sheers**

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) = \frac{15.46}{18} \times (.75 - .2329) = +.44$  ✓

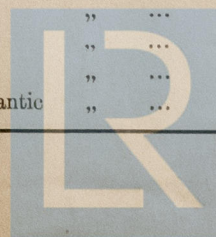
If limited on account of midship superstructure. ✓

If limited to maximum allowance of 1 1/2 ins. per 100 ft. ✓

<b>Deduction for Tropical Freeboard.</b> <b>Addition for Winter and Winter North Atlantic Freeboard.</b> Depth to Freeboard Deck = <b>20.27</b> ✓ Summer freeboard = <b>2.73</b> ✓ Moulded draught (d) = <b>17.54</b> ✓ Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <b>4.38 = 4 1/2"</b> ✓ Addition for Winter North Atlantic Freeboard (if required) = <b>not available</b>	<b>Deduction for Fresh Water.</b> 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 <b>not available</b>	<b>TABULAR FREEBOARD</b> corrected for Flush Deck (if required) Correction for coefficient $\frac{.801 + .48}{1.36} = \frac{1.281}{1.36}$ <table border="1"> <tr> <th></th> <th>+</th> <th>-</th> </tr> <tr> <td>Depth Correction ...</td> <td>7.11</td> <td>✓</td> </tr> <tr> <td>Deduction for superstructures ...</td> <td>10.05</td> <td>✓</td> </tr> <tr> <td>Sheer correction ...</td> <td>.44</td> <td>✓</td> </tr> <tr> <td>Round of Beam correction ...</td> <td>.21</td> <td>✓</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><b>7.55</b></td> <td><b>10.26</b></td> <td><b>- 2.71</b></td> </tr> <tr> <td colspan="3"><b>Summer Freeboard = 32.69</b> ✓</td> </tr> </table>		+	-	Depth Correction ...	7.11	✓	Deduction for superstructures ...	10.05	✓	Sheer correction ...	.44	✓	Round of Beam correction ...	.21	✓	Correction for Thickness of Deck amidships ...	✓	✓	Other corrections, scantlings, etc. ...	✓	✓	<b>7.55</b>	<b>10.26</b>	<b>- 2.71</b>	<b>Summer Freeboard = 32.69</b> ✓		
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, **Wood, Steel, Deck** :- **2'-8 3/4"** ✓

Tropical Fresh Water Line above Centre of Disc ...	Tropical Fresh Water Freeboard ...
Fresh Water Line " " ...	Fresh Water " " ...
Tropical Line " " ...	Tropical " " ...
Winter Line below " " ... <b>4 1/2"</b> ✓	Winter " " ... <b>3'-1 1/4"</b> ✓
Winter North Atlantic Line " " ...	Winter North Atlantic " " ...





### PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
			Upper Deck		Bridge Deck		Upper Deck		Port Bk.	Star Bk.	Upper Deck
Description of Hatchway			N <sup>o</sup> 1/2	3 or 4	Hatch at fore end to main deck	Hatch at fore end to main deck	Hatch at fore end to main deck	Hatch at fore end to main deck	Flush timber batten, in bridge	Hatch on port or star to fore pl.	Flush timber batten, in bridge
Dimensions of Hatchway			27'-3"	17'-6"	3'-6" x 7'-9"	3'-8" x 3'-11"	7'-10" x 3'-9"	5'-9" x 2'-0"	16' dia	2'-5" x 2'-6"	18' dia
COAMINGS	{	Height above Deck	3'-7 1/2"	18"	18"	9 3/4"	9 3/4"	16' dia	18"	18"	
		Thickness	.46	.44	.42	.42	.42	.38			
		Stiffeners	7" x 3/4"								
		Brackets, Stays									
HATCH BEAMS	{	Number	5								
		Spacing	4'-6 1/2"								
		Scantling and Sketch	14 1/2" x 36"								
		Bearing Surface	4" x 3 1/2" x .48"								
FORE AND AFTERS	{	Number	2								
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch									
HATCH COVERS	{	Material	wood	wood	wood	wood	wood	cast iron	wood	cast iron	
		Thickness	2 1/2" x 3"	2 1/2" x 3"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"	
		How fitted	flush	flush	flush	flush	flush	flush	flush	flush	
		Bearing Surface	2" x 3"	2 1/2"	2 3/4"	2 1/2"	2 1/2"	2"	1 1/2"		
Spacing of Cleats			23"	24"	25"	26 1/2"	21"	23"	18"		
Number of Tarpaulins			3	2	2	1	1	1	1	1	
*Are wood fore and afters steel shod at all bearing surfaces? <i>yes</i>											
Are battens and wedges efficient and in good condition? <i>yes</i>											
Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i>											
Are lashings provided in accordance with rule requirements? <i>yes</i>											

Particulars of fiddle, funnel and ventilator coverings:— *Fiddle openings on top of casing, 4'0" above bridge deck, closed by steel hinged covers, in good condition. Funnel and ventilator coverings in good condition.*

Particulars of Flush Bunker Scuttles:— Two port & 1 star in bridge tween decks, 16' dia; cast iron.  
Further particulars not available owing to coal in bunkers

Particulars of Companionways:— one on poop: 6'-3" x 3'-8" x 6'-0". steel. Opening 4'-2" x 2'-8". <sup>hill 15".</sup>  
wood door 13/4"

Particulars of Ventilators in exposed positions on freeboard and superstructure decks :—

Forecast: one  $18' \times 2'-10''$

Bridge : Two square derrick post vents at fore & after end of bridge

Loop : Three 18" x 30" x 34".

Six P.O.S. 6-7" x 6-9" x .30" Mushroom closing

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks :—

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

Firewell : Three P.S.  $2\frac{1}{2}'' \times 21'' - 24''$ . Two  $2\frac{3}{8}'' \times 4'-4''$ . 31 "

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

after well : Three P.S.  $2\frac{1}{2}$ " x 25".

Prop: me  $3\frac{1}{2}" \times 4\frac{1}{2}"$

Particulars of Gangway Cargo and Coaling Ports :—

hone.

Particulars of Scuppers and Sanitary Discharge Pipes :— *no scuppers.*

Sanitary discharges : From saloon & Officers house, two 8" <sup>from U.C.</sup> lds, led overboard 3'-2" below upper dk, with  
Pps from wash basins led overboard 12" above upper dk, 2 P.O.s, no storm valve.  
From crew space, one P.O.s. led overboard 12" above upper deck, with storm valve.

Particulars of Side Scuttles :—

In poop, fitted with humped deadlights.

Particulars of Guard Rails :—

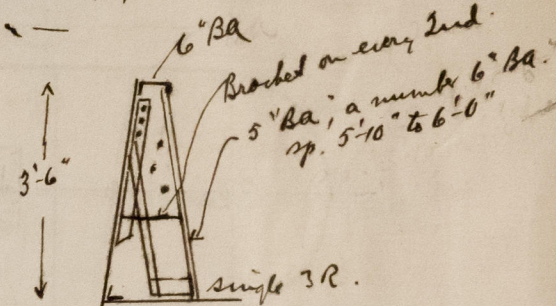
F<sup>1</sup>ile, bridge & poop: -  
 Stanchions, 3'-2" spaced 5'-10" to 4'-6" 3 rails on poop & bridge  
 4 - - " f<sup>1</sup>ile.

Particulars of Gangways, Lifelines, etc. :—

No gangway.

Ladder from bridge ascend at  $\frac{1}{2}$ , down to W<sup>o</sup> 3 hatchway, and  
 " " poop fore end " " " " " " " " " "

No life lives



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 ... ..	67'-11"	3'-6"	3'-6" x 1'-6 1/2"	4	21.12 ft. <sup>2</sup>	
Forward Well ... ..	64'-1 1/2"	3'-6"	3'-6" x 1'-6 1/2"	3	15.84 ft. <sup>2</sup>	
<p>State position of each freeing port from bridge ends After Well: — 8'-6", 32'-9", 55'-9", 64'-0"</p> <p>(F. and A. position and height above deck edge) Forward Well: — 10'-6", 28'-0", 45'-6"</p> <p>State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: —</p> <p>Additional area where sheer is less than standard.</p>						

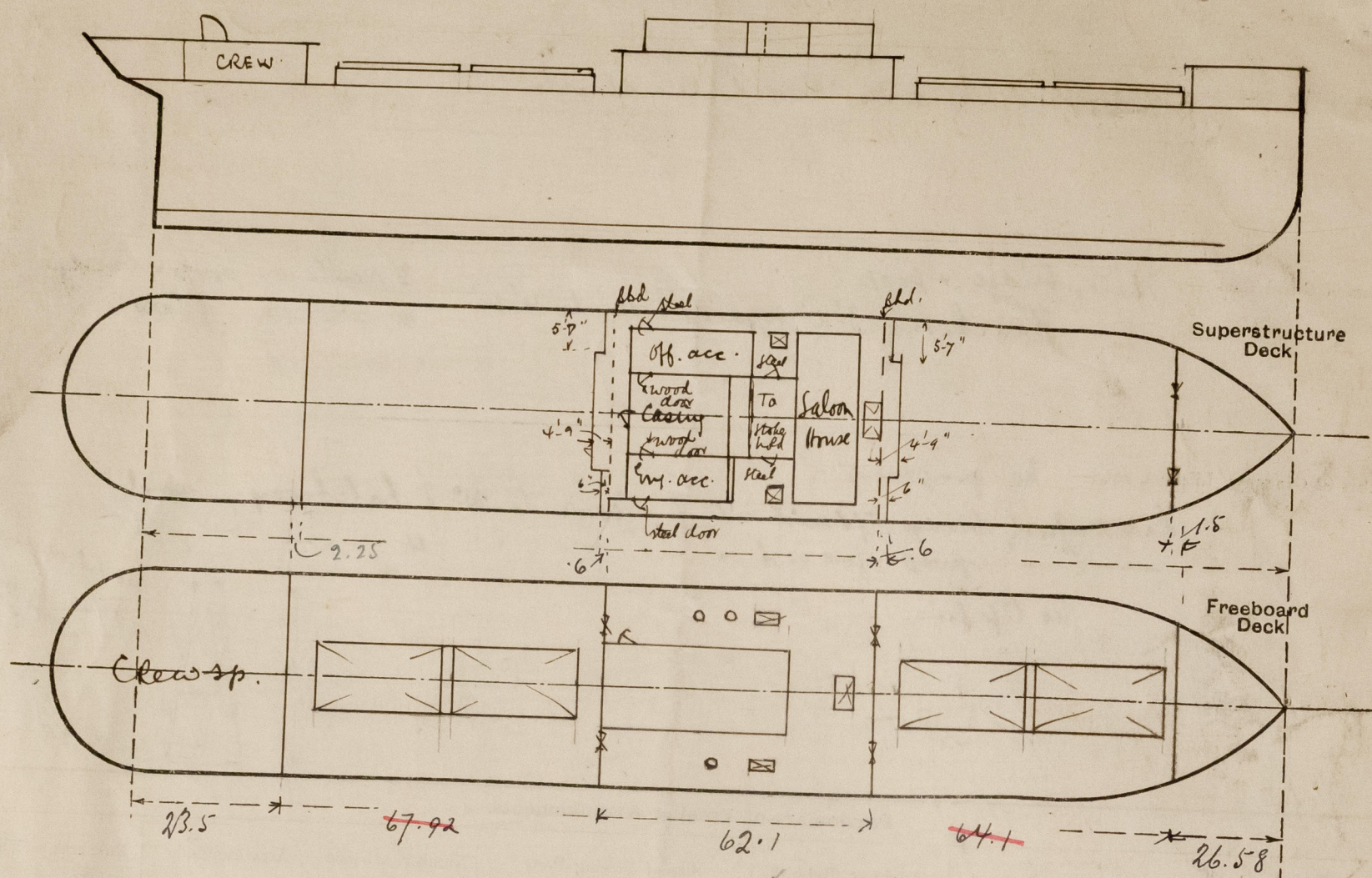
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	none	28"	4" x 3" x 40"	30" - 31"	none	none		
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	none	26" - 28"	4" x 3" x 40" o.a.	30"	none	4'8" x 3'0" p.s.	18"	
Bridge, Forward Bulkhead ... ..	none	26" - 30"	4" x 3" x 40" 28" o.	30"	Brackets top & bottom	4'8" x 3'0" p.s.	18"	
Forecastle Bulkhead ... ..	none	30"	5 1/2" x 3" x 48" o.a.	27" - 30"	none	4'0" x 3'0" p.s.	18"	
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
(Exposed) Machinery Casings on Super-structure Decks <i>probably not</i>	none	26"	3" x 3" x 32" o.a.	28"	Brackets at top & bottom	5'4" x 21"	18"	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	10 1/2" x 36"	26"	3" x 3" x 32" o.a.	28"	Ext. firm top over at bottom	4'7" x 20" p. only	18"	
Deckhouses on Flush Deck Ships ...								

Particulars of Closing Appliances (state if capable of being manipulated from both sides).

Poop Bulkhead ... ..	✓
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead ... ..	Steel bolted door, P.R.S. . . . . opening from outside only .
Bridge, Forward Bulkhead ... ..	Steel hinged & bolted doors, opening from both sides. Rudder packed,
Forecastle Bulkhead ... ..	Steel bolted doors, P.S., opening from outside only . . . . . 10 ft 6 in 0 9 "
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
(Exposed) Machinery Casings on Super-structure Decks ... ..	aft end of E.T. casing, 1 steel hinged door
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	aft end port side, 1 steel hinged door
Deckhouses on Flush Deck Ships ...	



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 shewn on the following sketches:—



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

The present freeboard, as per  
N.V. certificate 2/6/30  
F.W. 2'-3"  
T. 2'-4 1/2"  
S. 2'-7 1/2"  
W. 2'-10 1/2"  
W.N.A. 3'-0 1/2"  
R.T.S. 2'-8 1/2"

from steel  
upper dk. at side

A timber freeboard  
assignment is also  
desired

The survey was held  
afloat

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

Names of sister ships

Owners M. Othander (H. Th. Wilkens & Co, MS) Fredrikstad

Fee skr. 170.00  
+ exp.

Received by me



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