

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>Bergen.</u>	
having <u>Forecastle, Bridge and poop.</u>					Date of Survey <u>23rd. & 24th June 1932.</u>	
(Type of Superstructures.)					Name of Surveyor <u>J. A. Bide jr.</u>	
Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build		
<u>"TELA".</u>	<u>NORWEGIAN</u> <u>BERGEN.</u>	<u>✓</u>	<u>2960.</u>	<u>1916.</u> <u>— Smo.</u>		
Moulded Dimensions: Length <u>305'-0".</u> ✓ Breadth <u>43.75 ft.</u> ✓ Depth <u>27'-3".</u> ✓						
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>6694</u> tons						
Coefficient of fineness for use with Tables <u>.758</u> ✓						
					Particulars of Classification <u>L.R.</u> <u>40.36.29.</u> +100A1 ✓	

<p style="text-align: center;">Depth for Freeboard (D) <u>27.25</u></p> <p>Moulded depth <u>27'-3".</u> ✓</p> <p>Stringer plate ... <u>.42</u> <u>.04</u></p> <p>Sheathing on exposed deck</p> <p style="text-align: center;">$T \left(\frac{L-S}{L} \right) =$</p> <p style="text-align: center;">Depth for Freeboard (D) = <u>27.29</u></p>	<p style="text-align: center;">Depth correction</p> <p>(a) Where D is greater than Table depth (D—Table depth) R = <u>✓</u> <u>(27.29 - 20.33) 2.346 = + 16.33</u> ✓</p> <p>(b) Where D is less than Table depth (if allowed) (Table depth—D) R = <u>6.96</u></p> <p style="text-align: center;">If restricted by superstructures</p>	<p style="text-align: center;">Round of Beam correction</p> <p>Moulded Breadth (B) <u>43.75 ft.</u> ✓</p> <p>Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>10.50</u> ✓</p> <p>Ship's Round of Beam = <u>10.34"</u> ✓</p> <p>Difference <u>excess</u> <u>.50.25</u></p> <p>Restricted to <u>.25</u></p> <p>Correction = $\frac{\text{Diff}^e}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>.50</u> $\left(\frac{.5549}{4} \right) = - .07$</p>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	19'-0"	19.00	7'-0"		19.00
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	82'-0"	82.00	7'-0"		82.00
" overhang aft ...	3 ft.	2.25			2.25
" overhang forward					
F'cle enclosed ...	32.25 ft.	32.25	7'-0"		32.25
" overhang ...	6.50	.25			.25
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	136.75	135.75			135.75

Standard Height of Superstructure 6.55

" " R.Q.D. /

Deduction for complete superstructure 35.67

Percentage covered $\frac{S}{L} = 44.84$

" " $\frac{S_1}{L} = 44.51$

" " $\frac{E}{L} = 44.51$

Percentage from Table, Line A.
(corrected for absence of forecastle (if required)) 31.33

Percentage from Table, Line B.
(corrected for absence of forecastle (if required))

Interpolation for bridge less than 2L (if required)

Deduction = 11.18

Fiber

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product	Mean actual sheer aft =	Mean standard sheer aft =
A.P. ...	40.50 ✓	1	40.50	49 3/8	49.37	1	49.37 ✓		Even
1/8 L from A.P. ...	18.02	4	72.08	22"	21.13	4	84.52 ✓	Mean actual sheer forward =	Even
3/8 L " ...	4.45	2	8.90	5 1/2	5.28	2	10.56 ✓	Mean standard sheer forward =	
Amidships	4	.	0"	.	4	.	Length of enclosed superstructure forward of amidships =	
5/8 L from F.P. ...	8.91	2	17.82	10"	10.42	2	20.84 ✓	L	$\frac{49.58}{305} = .163$.149
1/2 L " ...	36.04	4	144.16	42"	41.67	4	166.68 ✓	" " aft of "	$\frac{32.25}{305} = .107$.12
F.P. ...	81.00	1	81.00	96"	96.00	1	96.00 ✓		
Total ...			364.46 ✓				427.97 ✓		

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

If limited on account of midship superstructure.

$\frac{364.46}{18} \left(.75 - \frac{2242}{5258} \right) = -1.85$ ✓

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

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>27.29</u> ✓</p> <p>Summer freeboard = <u>4.20</u> ✓</p> <p>Moulded draught (d) = <u>23.09</u> ✓</p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = $5.77 = 147$ m</p> <p>Addition for Winter North Atlantic Freeboard (if required) = $147 + 51 = 198$ m</p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta =$</p> <p>Tons per inch immersion at summer load water line</p> <p>T = 26.7.</p> <p>Deduction = $\frac{\Delta}{40T}$ inches = 147 m.</p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{758 + .68}{1.36} = \frac{1.438}{1.36}$</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th></th> <th style="width: 50px;">+</th> <th style="width: 50px;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td>16.33 ✓</td> <td></td> </tr> <tr> <td>Deduction for superstructures</td> <td></td> <td>11.18 ✓</td> </tr> <tr> <td>Sheer correction</td> <td></td> <td>1.85 ✓</td> </tr> <tr> <td>Round of Beam correction... ..</td> <td></td> <td>.03 ✓</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>.06 ✓</td> </tr> <tr> <td></td> <td>16.33</td> <td>13.10</td> </tr> </tbody> </table> <p style="text-align: right;">Summer Freeboard = 50.44 ✓</p>		+	-	Depth Correction	16.33 ✓		Deduction for superstructures		11.18 ✓	Sheer correction		1.85 ✓	Round of Beam correction... ..		.03 ✓	Correction for Thickness of Deck amidships			Other corrections, scantlings, etc.06 ✓		16.33	13.10
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, Wood, Steel, Deck:—				50.48" = 1282 mm	
Tropical Fresh Water Line above Centre of Disc	11.54"	294	✓	Tropical Fresh Water Freeboard	38.94" 988
Fresh Water Line	5.77"	147	✓	Fresh Water	44.71" 1135
Tropical Line	5.77"	147	✓	Tropical	44.71" 1135
Winter Line below	5.77"	147	✓	Winter	56.25" 1429
Winter North Atlantic Line	7.77"	198	✓	Winter North Atlantic	58.25" 1480

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS											
Description of Hatchway			No. 1.	No. 2.	No. 3.	No. 4.					
Dimensions of Hatchway			24'-0" x 16 ft.	24'-0" x 16 ft.	24'-0" x 16 ft.	24'-0" x 16 ft.					
COAMINGS	{	Height above Deck	30"	30"	30"	30"					
		Thickness	Sides	.44"	.44"	.44"	.44"				
			Ends	.40"	.40"	.40"	.40"				
		Stiffeners	none fitted	none fitted	none fitted	none fitted					
		Brackets, Stays	-11-	-11-	-11-	-11-					
HATCH BEAMS	{	Number	4	4	4	4					
		Spacing	57"	57"	57"	57"					
		Scantling and Sketch		As No. 1	As No. 1	As No. 1					
		Bearing Surface	3" as sides								
FORE AND AFTERS	{	Number									
		Spacing									
		Unsupported Lengths									
		Scantling* and Sketch	None fitted	None fitted	None fitted	None fitted					
		Bearing Surface									
HATCH COVERS	{	Material	Pine	Pine	Pine	Pine					
		Thickness	2 1/2" - 3"	2 1/2" - 3"	2 5/8" - 3"	3"					
		How fitted	Fore and aft	Fore and aft	Fore and aft	Fore and aft					
		Bearing Surface	3"	3"	3"	3"					
Spacing of Cleats			24"	24"	24"	24"					
Number of Tarpaulins			2.	2.	2.	2.					

*Are wood fore and afters steel shod at all bearing surfaces? *None fitted.*

Are battens and wedges efficient and in good condition? *Yes.*

Are tarpaulins in good condition and in accordance with rule requirements? *Yes*

Are lashings provided in accordance with rule requirements? *Yes.*

Particulars of fiddley, funnel and ventilator coamings:— Fiddley and funnelcoamings strong and efficient.
Steel covers fitted for fiddley openings. *permanently attached*

Particulars of Flush Bunker Scuttles:—

None fitted.

Particulars of Companionways :—

None fitted.

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

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

2 ^{14"} coamings	36" ^{x 32} high	abreast fore end No. 1 Hatchway	<u>Incaselle:</u>	3 mushroom vents 6" above deck
4 " "	36" "	" between No. 1 & 2 Hatchway		2 vents, 8 1/2" = 24" x 25"
2 " "	36" "	" forward of bridge front	<u>Bridge Deck</u>	2 square poops 5" x 11" x 25"
2 " "	36" "	abreast fore end No. 3 Hatchway	<u>Poop Deck</u>	2 1/2 12" x 24" = 26" P+S.
2 " "	36" "	" forward of poop		1 = 17" x 24" = 30" P+S.
				2 = 10" x 24" = 26"
				1 = 12" x 26" = 26"

All coamings fitted with wood plugs and canvas covers.

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

One airpipe 23" above deck just abaft forecastle bulkhead.
 " " 24" " " " " " " Bridge " "

means of closing provided

Particulars of Gangway Cargo and Coaling Ports:—

None fitted

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Particulars of Scuppers and Sanitary Discharge Pipes — One scupper at fore and after end of fore and after decks.
 4 scuppers each side from 'tween deck space. *close by wood plugs.*
 One sanitary discharge P.S. forward 38" below freeboard deck. Ordinary flap valve.
 Two " " " P.S. amidships above freeboard deck through bunker. Ordinary flap valve.

Particulars of Side Scuttles:

None fitted below freeboard deck and none in 'tween deck space.

Particulars of Guard Rails:—

Guard rails on forecastle and poop and on bridgedeck between sidehouses. 39" high. Two rails fitted. *Spaced 51"-59" apart on Poop, 49" apart on side & br.*

Particulars of Gangways, Lifelines, etc. :—

No gangways or lifelines fitted.

The crew are berthed in the forecastle.

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	88'-0"	42"	33" x 19 1/2"	4	17.80 sq. ft.	18 sq. ft.
Forward Well	⁸³⁻⁷⁵ 83'-11"	41"	33" x 19 1/2"	4.	17.80 sq. ft.	17 sq. ft.

State position of each freeing port } After Well:— 16'-9", 40'-0", 64'-3" & 82'-4" aft of after end of bridge. 11 1/2" above Deck.
 (F. and A. position and height above deck edge) } Forward Well:— 17'-4", 35'-0", 53'-1" & 72'-0" " Forecastle Bulkhead. 11 1/2" above Deck.
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— Fitted with shutters and 1 rail.
Fittings for fastening shutters easily releasable.
 Additional area where sheer is less than standard.

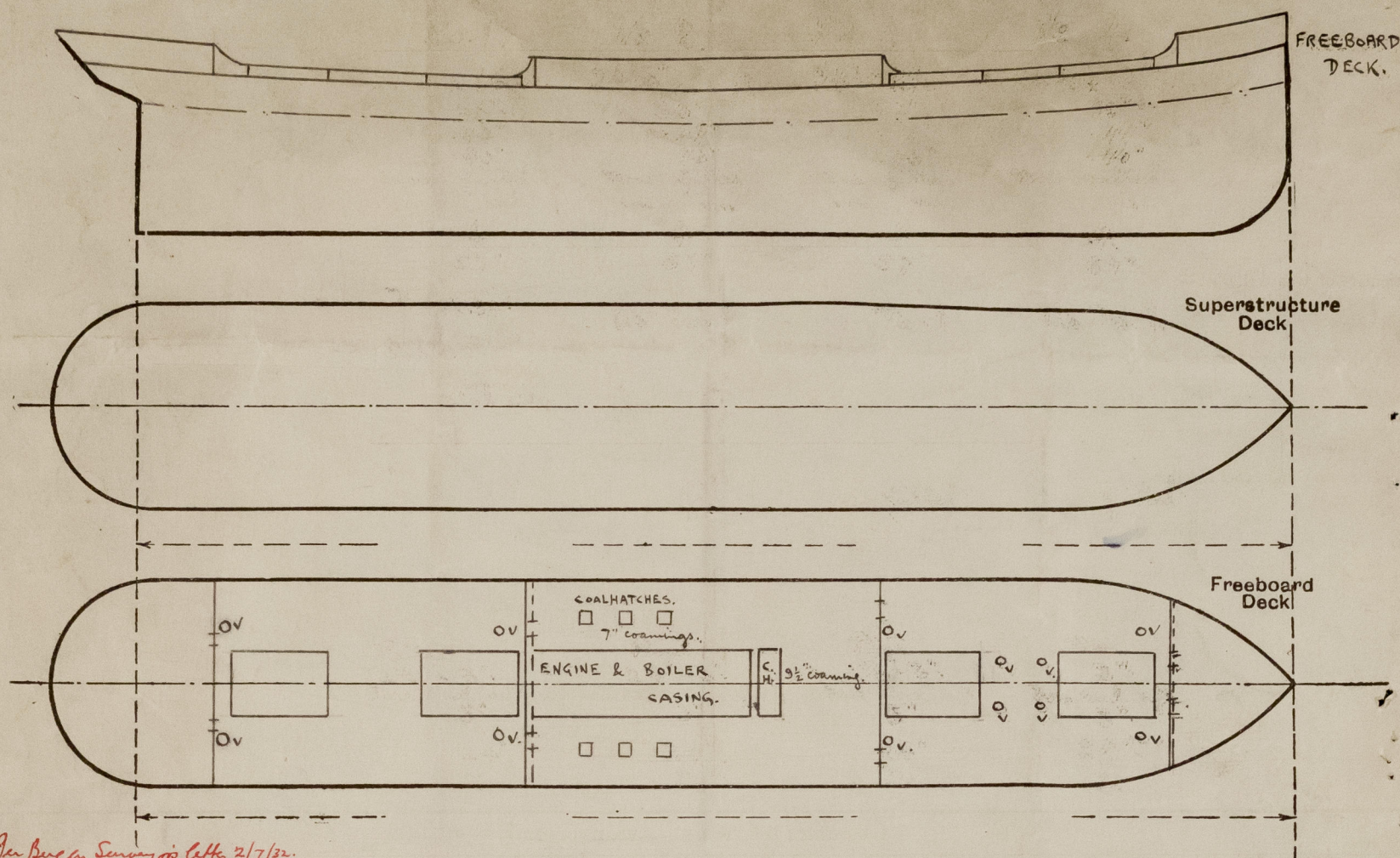
Particulars of Superstructures, Trunks, Casings, Deckhouses.

	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead		7/20"	5 1/2" x 3 1/2" x 7/20" F	30"	Brackets at top & bottom.	36" x 52 1/2"	18"	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead		6/20"	3" x 2 1/2" x 7/20" F	30"	No brackets.	51" x 54"	18"	
Bridge, Forward Bulkhead	8/20"	7/20"	^{at fore & aft} 8 1/4" x 3" x 10/20" F	28"	Brackets at top.	42" x 54"	18"	
Forecastle Bulkhead	8/20"	6/20"	3" x 2 1/2" x 7/20" F	40"	No brackets.	25 1/4" x 57"	18"	
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	8/20"	6/20"	3" x 2 1/2" x 7/20" F	30"	Brackets at top.	25" x 57"	18"	7'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances								
Deckhouses on Flush Deck Ships ...								

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

Poop Bulkhead	Hinged steel doors (2) strongly stiffened. Handles for shutting can only be manipulated from outside.
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	Portable steel plates fitted with hookbolts. ^{3/4" hook bolts spaced 22" apart} Can only be manipulated from outside.
Bridge, Forward Bulkhead	Hinged steel doors (2) strongly stiffened. Can be shut weathertight. Manipulated only from outside.
Forecastle Bulkhead	2 steel doors. Ordinary handles securable from both sides.
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	3 doors S.B. & 4 on P.S. all steel. Ordinary handles securable from both sides.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	No openings.
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 shown on the following sketches:—



See Bergen Surveyor's letter 2/7/32.

Hatches: Inside forecabin - 2 openings S.S. flush with wood deck each 24" x 24", 2" wood covers F&A, 2 1/2" bearing.
Bridge Deck: Cross bulk hatchway 5'-11 1/2" x 13'-11 1/2" x 31" high x 36" as shifter or stay, shifting beams or fore safts, 2 3/4" covers fore saft, 2 3/4" bearing beam.
 Cleats 20"-24" apart. No fittings for lashings.
 3 turning hatches each side 48" x 36" x 31" high x 30", 2 1/2" covers all round ships 198" bearing surface. Cleats 20" apart. 2 tarpaulins for these 7 hatches.
Main Deck w/br. Space: Cross bulk hatchway 7'-2 1/2" x 16'-1" x 9" B.A. coaming, 2 1/2" covers F&A, 3" bearing surface, cleats 45" apart, 2 tarpaulins (continued below)

State any special features in the construction of the ship:— The holds, decks, hatchways, ventilators, airpipes, scuppers, sanitary discharge pipes examined. Casings, bulkheads, coalhatches examined. Steering gear and connections examined. The owner states he trusts the bottom survey held in New York in February 1932 can be considered as part of freeboard survey. It is recommended that the after bulkhead of bridge be doubled at post and S.B. above deck about 6 ft x 18" each side, - done with at Bergen August 1932
 There are coalhatches on bridge deck 3 at each side and one between amidshiphouse and boiler casing 30" high coamings. Tween deck space examined.

There are no special features.

The owner states he may wish to load timber deck cargoes but he does not require a timber freeboard.

The double bottom tanks are not subdivided longitudinally.

There are only 4 padeyes each side on foredecks and 4 on afterdecks fastened on top of bulwarkrail. No other fittings for deck cargo.

Steering gear fitted inside engine room casing.

The vessel has at present L.R. freeboard 4'-4 1/2" summer.

The owner states he wishes to retain this freeboard if it is more favourable than the International freeboard.

(Continued from above): 1 turning hatchway each side to hold 36" x 24" x 3" angle coaming. No cleats, 2 1/2" covers F&A. 2 1/2" bearing.
 3 48" x 38 1/2" x 7 1/2" B.A. coaming, 2 1/2" covers F&A, 2" bearing surface, cleats 24"-28" apart, no tarpaulins. Bergen 25th June 1932

Poof Space 1 hatchway 30" x 30" to upper after peak, 3" angle coaming, 2 covers for saft, 2 1/2" bearing. 1 tarpaulin. S. A. Bide jr.

Builder's name and yard number Osaka Iron Works Ltd. Osaka.

Names of sister ships

Owners V/s a/s Brødrene Wilhelmsens "Peder" (Brødrene Wilhelmsens Mgrs)

Fee Kr. 225.-

Received by me

+ expenses Kr. 25.-

total Kr. 227.- to be charged when freeboard is verified.

Kr. 205. per letter 2/11/32



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