

# WRECK SECTION

## Lloyd's Register of Shipping.

### SURVEYS FOR FREEBOARD.

27 DEC 1932

Index No. 18956.  
(For London Office only.)

No. 573.

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having Forecastle, Bridge and Raised Quarter Deck.

(Type of Superstructures.)

Port of Survey Bergen.

Date of Survey 22nd December 1932.

Name of Surveyor J. A. Eide jr.

Particulars of Classification 100 A.1.  
S.S. Cal. No. 3-10-19.  
S.S. Bgn. No. 2-28.

Ship's Name "KUL" Nationality and Port of Registry NORWEGIAN Official Number 1310 Gross Tonnage 1348. Date of Build 1907.3.

Moulded Dimensions: Length 230'-6" Breadth 34'-2" Depth 18'-3 1/2"  
229.8 34.16 18.25 2652 tons

Moulded displacement at moulded draught = 85 per cent. of moulded depth

Coefficient of fineness for use with Tables .762

Depth for Freeboard (D) 18.25

Moulded depth ... 18'-3 1/2"

Stringer plate ... .50

Sheathing on exposed deck  
 $T \left( \frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 18.29

Depth correction

(a) Where D is greater than Table depth  
(D-Table depth) R =  $(18.29 - 15.32) 1.767 = +5.25$

(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) 34'-2"

Standard Round of Beam =  $\frac{B \times 12}{50} = 8.20$

Ship's Round of Beam = 8"

Difference Deficient .20

Restricted to

Correction =  $\frac{\text{Diff}^*}{4} \times \left( 1 - \frac{S_1}{L} \right) = \frac{.20}{4} \times .321 = +.02$

## DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ...						
" overhang ...						
R.Q.D. enclosed ...	<u>118'-11"</u>	<u>118.92</u>	<u>3'-10"</u>	<u>3.83</u>	<u>117.70</u>	Standard Height of Superstructure <u>6.0</u>
" overhang ...						" R.Q.D. <u>3.87</u>
Bridge enclosed ...	<u>9'-11"</u>	<u>9.92</u>	<u>7'-0"</u>		<u>9.92</u>	Deduction for complete superstructure <u>28.98</u>
" overhang aft ...	<u>3'-1/2"</u>	<u>.14</u>			<u>.14</u>	Percentage covered $\frac{S}{L} = 68.09$
" overhang forward ...	<u>3'-1/2"</u>	<u>.14</u>			<u>.14</u>	" $\frac{S_1}{L} = 67.90$
W'cle enclosed ...	<u>26'-9"</u>	<u>26.75</u>	<u>7'-0"</u>		<u>26.75</u>	" $\frac{E}{L} = 67.36$
" overhang ...	<u>7'</u>	<u>.29</u>			<u>.29</u>	Percentage from Table, Line A. <u>58.51</u>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Percentage from Table, Line B.
Tonnage opening aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than .2L (if required)
Total ...	<u>156.46</u>	<u>156.02</u>			<u>154.80</u>	Deduction = <u>28.98 \times .5851 = -16.95</u>

measured afloat.

## SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft = <u>Even</u>	Mean standard sheer aft
A.P. ...	<u>32.98</u>	1		<u>32.98</u>	<u>39 1/2"</u>	<u>39.50</u>	1		<u>39.50</u>		
1/4 L from A.P. ...	<u>14.67</u>	4		<u>58.68</u>	<u>17"</u>	<u>16.99</u>	4		<u>67.96</u>	Mean actual sheer forward = <u>Even</u>	Mean standard sheer forward
1/2 L " ...	<u>3.63</u>	2		<u>7.26</u>	<u>4 1/2"</u>	<u>4.25</u>	2		<u>8.50</u>		
Amidships ...		4		<u>0</u>	<u>0"</u>		4				
3/4 L from F.P. ...	<u>7.26</u>	2		<u>14.52</u>	<u>10 1/2"</u>	<u>10.37</u>	2		<u>20.74</u>	Length of enclosed superstructure forward of amidships = <u>.061</u>	
3/4 L " ...	<u>29.35</u>	4		<u>117.40</u>	<u>41"</u>	<u>41.48</u>	4		<u>165.92</u>	" aft of " = <u>.50</u>	
F.P. ...	<u>65.96</u>	1		<u>65.96</u>	<u>90"</u>	<u>90.00</u>	1		<u>90.00</u>		
Total ...				<u>296.80</u>					<u>392.62</u>		
Correction = $\frac{\text{Difference between sums of products}}{18} = \frac{296.80 - 392.62}{18} = -5.32$										If limited to maximum allowance of 1 1/2 ins. per 100 ft.	
If limited on account of midship superstructure. $\frac{.151}{.200} \times 2.18 = -1.75$											

Deduction for Tropical Freeboard.  
Addition for Winter and Winter North Atlantic Freeboard.

Ft.  
Depth to Freeboard Deck = 22.12  
Summer freeboard = 5.23  
Moulded draught (d) = 16.89

Deduction for Tropical freeboard and addition for Winter freeboard =  $\frac{d}{4}$  inches = 4.22 = 4 1/4  
Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line  
 $\Delta =$  Not available  
Tons per inch immersion at summer load water line  
 $T =$  15.84  
Deduction =  $\frac{\Delta}{40 T}$  inches = 4 1/4

TABULAR FREEBOARD corrected for Plush Deck (if required)

	+	-
Correction for coefficient $\frac{.762 + .68}{1.36} = \frac{1.442}{1.36}$		
Depth Correction ...	<u>5.25</u>	
Deduction for superstructures ...		<u>16.95</u>
Sheer correction ...		<u>1.75</u>
Round of Beam correction ...	<u>.02</u>	<u>.02</u>
Correction for Thickness of Deck amidships ...	<u>46.00</u>	
Other corrections, scantlings, etc. ...		
	<u>51.27</u>	<u>18.70</u>
Summer Freeboard = <u>62.74</u>		

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

Tropical Fresh Water Line above Centre of Disc ...	<u>8 1/2" = 216 mm</u>	Tropical Fresh Water Freeboard ...	<u>4' - 2 3/4" = 1594 mm</u>
Fresh Water Line " " ...	<u>4 1/4" = 108</u>	Fresh Water " " ...	<u>4' - 6 1/4" =</u>
Tropical Line " " ...	<u>4 1/4" = 108</u>	Tropical " " ...	<u>4' - 10 1/2" =</u>
Winter Line below " " ...	<u>4 1/4" = 108</u>	Winter " " ...	<u>5' - 7 1/2" =</u>
Winter North Atlantic Line " " ...	<u>6 1/4" = 159</u>	Winter North Atlantic " " ...	<u>5' - 9" =</u>

Kul

There is a hatchway inside deckhouse aft with a M.T. cover bolted on and manhole in this cover giving access to A. Peak.

Funnel and ventilator coverings on casing top 7'-0" above Raised Quarter Deck good. Siddle openings fitted kinged steel covers.

None fitted.

None fitted.

RAISED QUARTER DECK:
1 - 14" x 34 1/2" x 32" to hold
1 - 16" x 36 1/2" x 32" "
1 - 16" x 36" x 32" "
1 - 14" x 36" x 32" "
1 - 16" x 36" x 40" "
1 - 6 1/4" x 24" x 24" turn

BRIDGE DECK: -  
1 - 6" x 10" x .20" to captain's bathroom.  
Ventilators are fitted wood plugs and  
canvas covers.

ON FORECASTLE: - 1 - 2' joist under G above deck to forepeak  
1 - 3' " " 3 1/2' " " bottom tank.  
1 - 3' " " 11' " " "  
IN FOREWELL: - 1 - 2 1/2' " " 2' o/a " " at bulkhead fastened with clip  
1 - 2 1/2' " " 2' 4 1/2' " " "

Wood plugs fitted to all airpipes.

None fitted.

1	W.C. discharge	Port side	from fore castle	discharges	above maindeck.	Flapvalve fitted
1	W.C.	"	St. B.	"	bridge space	"
		"	Port	"	bridgehouse	"
1	discharge	Port side	from pantry	in bridgehouse	"	"
					above	"
					"	No valve.

How much

Rails:— On forecastle 41" high. 2 rods, stanchions 54"-57" apart  
on bridgedeck 35" high bulwark.

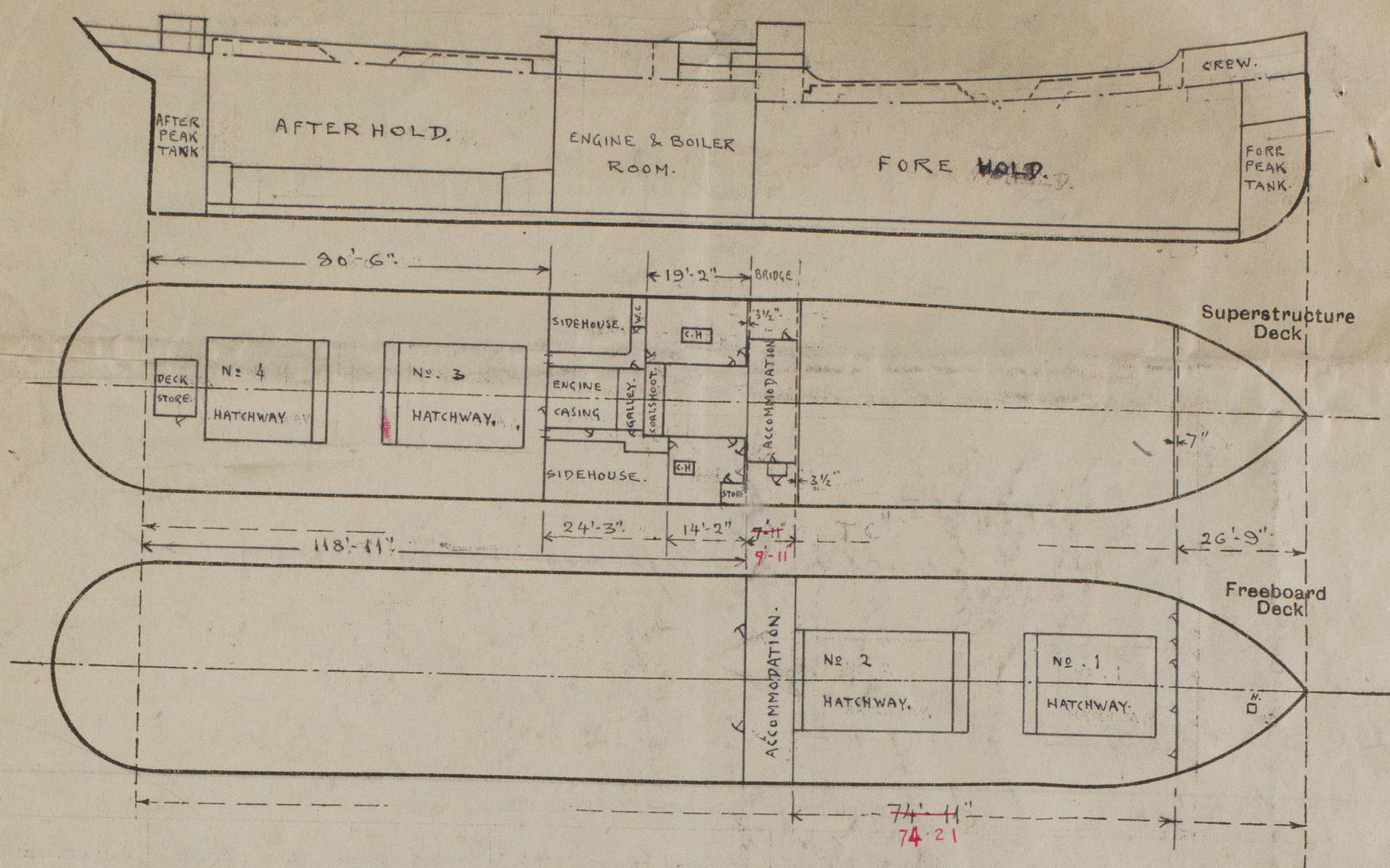
~~None fitted~~

Gangways & lifelines fitted in forward well

State position of each freeing port ... } After Well:—14'-8", 36'-9" & 65'-8" aft of altar and of sidehust 9 1/2" above deck.  
(F. and A. position and height above deck edge) } Forward Well:—5'-11", 19'-5", 35'-6" & 61'-1" forward of bridgehead. 11 1/2" — " — "  
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— } rod and shutters.

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

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:— Additional lashing for hatchways:—

- No 1 HATCHWAY:— TWTSHP. channels  $3\frac{7}{8} \times 2 \times .45$  for each section fastened at ends with hookbolts, with butterfly nuts.  
 No 2 HATCHWAY:— 3 TWTSHP. flatirons  $4 \times .45$  and 2 longitudinal anglebars  $3 \times 3 \times \frac{7}{16}$  fastened at ends with hookbolts, with butterfly nuts.  
 No 3 HATCHWAY:— TWTSHP. —  $4 \times .45$  for each section fastened at ends with hookbolts, with butterfly nuts.  
 No 4 HATCHWAY:— 2 longitudinal wood beams  $6 \times 6$ .

There is a steel bulkhead port and St.B. on Raised Quarterdeck from boiler casing to shipside full height of sidehouses  $7'-0"$ . A hinged steel door is fitted port and St.B. at forward end giving access to passage.

Opening  $27 \times 53 \times 48$  coaming.

There is a steel bulkhead from shipside to shipside on Raised Quarter Deck at after end of sidehouses. Opening in this bulkhead gives access to passage port and St.B. No door fitted but coaming of opening is  $15\frac{1}{2}$ ". There is wood deck only full length of sidehouses and passages from shipside to casing. The well between after end of bridge and forward end of sidehouse is  $13'-2"$  long on port side and  $14'-2"$  on St.B. side. Height of bulwark  $3'-4\frac{1}{2}"$ . One freeing port each side  $2'-6" \times 1'-4\frac{1}{2}"$   $8'-6"$  aft of after end of bridge and fitted shutter and 1 rod.  $3\frac{1}{2}"$  above deck.

The opening in deckhouse on bridge St.B. is  $22 \times 52 \times 13$  coaming and this gives access to captain's berth and his bathroom below.

There is a steel deckhouse used as a store aft of No.4 hatchway.

The survey confined to taking necessary measurements, but chainlockers and anchors and cables also examined in order to complete the Special Survey.

The owners state they wish to retain the present L.R. freeboards if the International freeboards are unfavourable. Freeboard certificate dated London 13th. February 1928.

F.W. :  $1'-3"$   
 S. :  $1'-7"$  } below top of stat. deck line.  
 W. :  $1'-3\frac{1}{2}"$

Stat. deck line is  $1\frac{1}{2}"$  above maindeck at side.

Bergen 23rd. December 1932  
 J. A. Bide jr.

Builder's name and yard number Messrs. Mackay Bros. Alloa.

Names of sister ships

Owners A/S Jho. Halvorsen.

Fee No. 153. Received by me  
 to be charged when freeboard is verified.



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