

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

SUBFARTSKONTORET

Index. No. 34221
(For London Office only.)

16 AUG 1932

Computation of Freeboard for Steamer Angra having a poop, bridge & forecastle

Port of Survey Tenrik, pr. Tonsberg

Date of Survey 6/8/32

Name of Surveyor Phide

Ship's Name ANGRA (Type of Superstructures.)

Nationality and Port of Registry Norwegian Tonsberg

Gross Tonnage 4818

Date of Build 1920

Moulded Dimensions: Length 385 Breadth 51'9" Depth 29'3"

Moulded displacement at moulded draught = 85 per cent. of moulded depth 11069 tons

Coefficient of fineness for use with Tables .482

Particulars of Classification 100 A1
Carrying whole oil or other oils in bulk
having a flash point above 150°F.
S.S. ord. N° 2-28

Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth	29'25"	(a) Where D is greater than Table depth (D - Table depth) R =		Moulded Breadth (B)	51'45"
Stringer plate	04	(29'29" - 25'64") 2'962 = + 10'42		Standard Round of Beam = $\frac{B \times 12}{50}$	12'42
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Ship's Round of Beam	13'00
Depth for Freeboard (D) =	29'29"	If restricted by superstructures		Difference	.58
				Restricted to	
				Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L})$.58

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed	33'-6"	33.50	8'		33.50	Standard Height of Superstructure <u>7.35</u>
" overhang						" " R.Q.D.
R.Q.D. enclosed						Deduction for complete superstructure <u>41.00</u>
" overhang						Percentage covered $\frac{S}{L} =$ <u>50.22</u>
Bridge enclosed	114'-10"	114.83	8'		114.83	" " $\frac{S_1}{L} =$ <u>50.22</u>
" overhang aft						" " $\frac{E}{L} =$ <u>50.22</u>
" overhang forward						Percentage from Table, Line A.
F'dle enclosed	45'-0"	45.00	8'		45.00	(corrected for absence of forecastle (if required))
" overhang						Percentage from Table, Line B.
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required)
Tonnage opening aft						Deduction = <u>41 x .3622 = - 14.85</u>
" forward						
Total	193.33	193.33			193.33	

measured afloat SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	48.50	1		48.50	5'-2"	62.00	1		62.00
1/4 L from A.P.	21.38	4		86.32	2'-1 1/2"	25.50	4		102.00
1/2 L	5.34	2		10.68	3'-2"	3.50	2		7.00
Amidships	-	4		-	-	-	4		-
3/4 L from F.P.	10.68	2		21.36	4"	4.00	2		8.00
1/4 L	43.16	4		172.64	3'-9 1/2"	46.50	4		182.00
F.P.	94.00	1		97.00	10'-5"	125.00	1		125.00
Total				436.50					486.00

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{.75 - S}{2L} \right) = \frac{49.5}{18} \left(\frac{.75 - .2511}{1} \right) = - 1.34$

If limited on account of midship superstructure.

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

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

Depth to Freeboard Deck = 29'29"

Summer freeboard = 5'52"

Moulded draught (d) = 23'77"

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 5'74"

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta =$ 10673

Tons per inch immersion at summer load water line

$T =$ 39.25

Deduction = $\frac{\Delta}{40 T}$ inches

= 6'34"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

$\frac{782 + 68}{1.36} = \frac{1.462}{1.36}$

Depth Correction

Deduction for superstructures

Sheer correction

Round of Beam correction

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

Summer Freeboard = 66'35"

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

Winter North Atlantic Line

Tropical Fresh Water Freeboard

Fresh Water

Tropical

Winter

Winter North Atlantic

Angra

Further Latchway
see back

Fiddly openings closed by ~~steel~~ hinged covers, in good condition. ✓
 Funnel & ventilator coamings, on top of casing, ft above ✓
 bridge db., in good condition. ✓

none

1 steel skylight, P.O.S. on poop, strongly constructed. ✓

Fore dock: two 12"x6.5"x.38. two 18"x3"x40. two 12"x3.6"x.36. one 10"x4"x.36. one 10"x4"x.36 P.V.S. one 12"x3"x.36 P.V.S. one 10"x4"x.34 P.V.S. one 12"x3.6"x.38 P.V.S. ✓

Bridge deck: Five mushroom vents, 10" x 9" to acc. Two 18" x 31" x 40" Two 16" x 49" x 36; one 18" x 36" x 40.

after dock: one 10" x 30" x 32 P.O.S. one 12" x 36" x 32 P.O.S. ✓ two 10 1/2" x 3' 9" x 36" P.O.S. one 12" x 6 1/4" x 34 P.O.S. - wood plugs canvas covers provided

Prop: one 6" x 6" x .38 P.S. - Six 6" x 4" P.S., mudroom vents to sea, + one post side
 ticulars of Air Pipes in exposed positions on freeboard, quarter or superstructure decks:—

Forecastle: one $2\frac{3}{4}" \times 10"$

Free dock: Two $2\frac{1}{2}'' \times 34'$ P. vs.

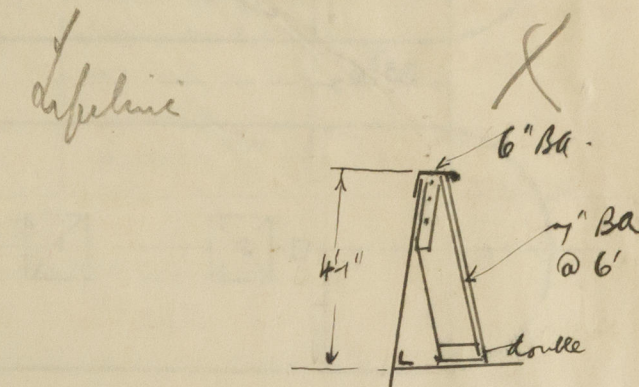
one 6" x 2½" p. vs. ✓ one 3½" x 6" p. vs. ✓

none

Particulars of Side Scuttles: In poop & fore-castle, in after peak upper section, for peak upper section, with hinged deadlight.

Poop: Stanchions 3'5" sp. 5'; 3 rails
 Forecastle: - - 3'4", sp. 4'3" to 4'6"; 3 rails

none.



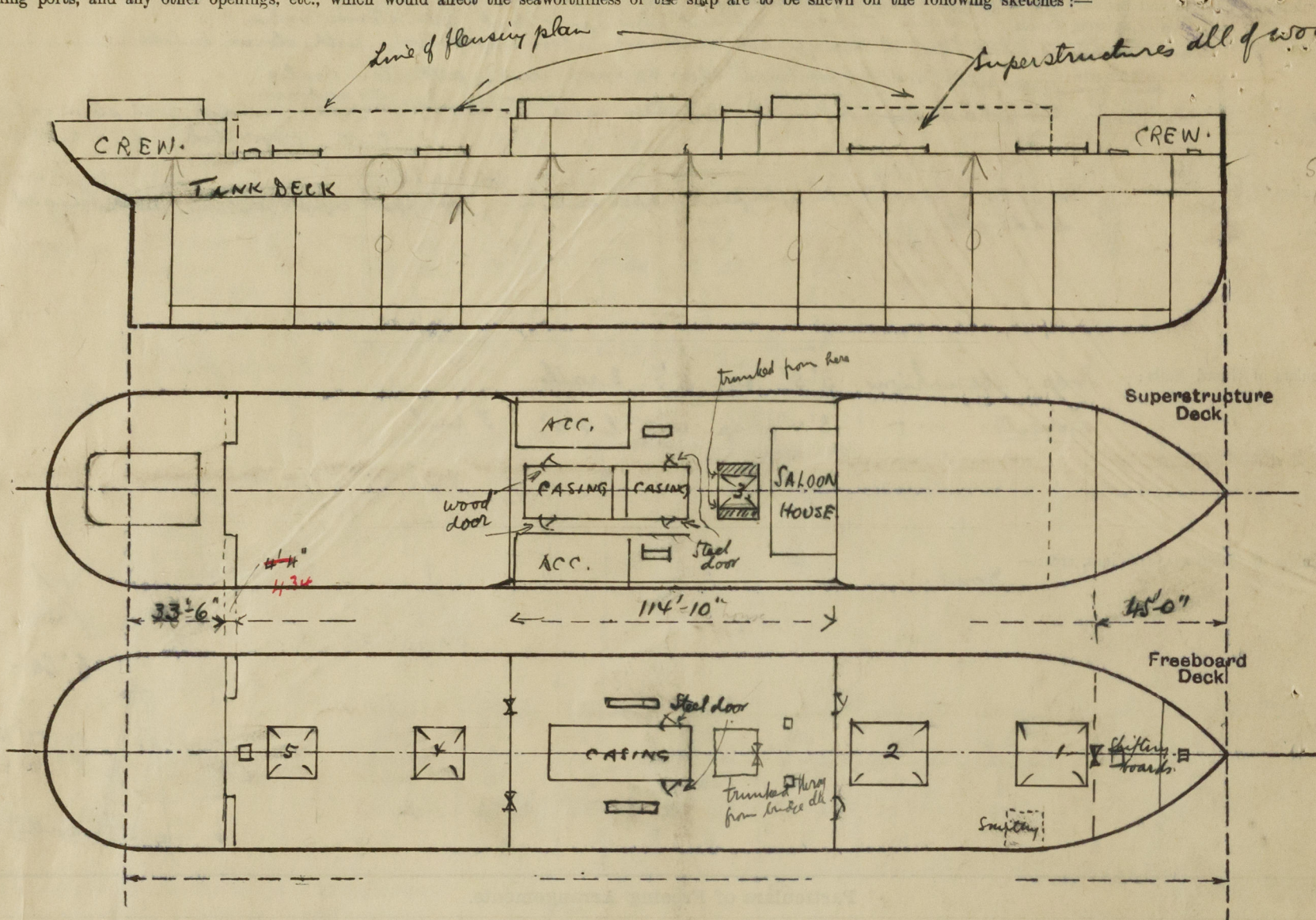
State position of each freeing port ... { After Well:— 2'-0", 13'-2", 29'-4", 44'-4", 56'-9", 73'-6", 86'-5", 94'
(F. and A. position and height above deck edge) { Forward Well:— 11'-9", 30'-3", 54'-10"
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 1 rail
shutter 18" above deck edge
Additional area where sheer is less than standard.

Board of Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks ...	none	30	3 x 3 x 34	29"	Back to top cont. at bottom	4' 9" x 26"	18"	7' 6"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	"	30	3 x 3 x 34	29"	cont. do	5' x 4'	18"	8' 0"
Deckhouses on Flush Deck Ships ...								

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

Raised Quarter Deck Bulkhead ...	58. 1 wood door ^{Plank} riveted channel in position for scupper hatch
Bridge, After Bulkhead ...	Port Weather boards in 3" riv. channels ^{Storm boards full height & riveted channels}
Bridge, Forward Bulkhead ...	1 steel hinged bolted door. 43 P.O.S. ✓
Forecastle Bulkhead ...	Weather boards in 2 1/2" riv. channel ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	1 P.O.S. & Stikehold 4'10" x 26" steel hinged
Exposed Machinery Casings on Superstructure Decks ...	1 wood door & E.R. P.O.S. in passageway 1 1/2" thick
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ...	1 steel hinged door P.O.S. to stikehold, at fore end of casing. In coal shoot trunk, 1 bolted door at fore end bulkhead, 6'4" x 6' 11" sill
To Cross Bulkhead	
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:—

- Hatch to fore peak, in fore: 4'-0 1/2" x 3'. Coaming 10" BA. 2 1/2" covers athwartships no cleats, bearing surface 3". Steel bands for battening. 2 tarpaulins ✓
- Hatch to fore hold, in fore, on upper deck: 5'-0" x 31". 30" x 36" coaming. 2 1/2" covers athwartships bearing surface 3". cleats sp. 21". 2 Tarpaulins. ✓
- No trimming hatch, P.S. in tween deck, on upper deck, 24" x 31". Steel belted cover, .44. No coaming. ✓
- Hatchways on tank deck, are all steel covered, O.T. ✓

The present freeboards, assigned by the N.V. 1.9.20

F.W.	5'-0 1/2"	} from top of steel upper dk at side
T.	5'-1"	
S.	5'-6 1/2"	
W.	5'-11 1/2"	
B. of V. sum 5'-6 1/2"		

The survey was held afloat, and was confined to obtaining the above particulars

Builder's name and yard number Lithgows Ltd. Port Glasgow

Names of sister ships

Owners M/s Hector (N-Bugge) Tonsberg

Fee £r. 234.-
+ expenses

Received by me



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