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Index No.

(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

2523

RETAIN

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>Barrow.</u>
having <u>Combined Poop and Bridge and Forecastle.</u>					Date of Survey <u>9th to 10th April 1934</u>
(Type of Superstructures.)					Name of Surveyor <u>Hodgson.</u>
Ship's Name <u>CITTA DI BERGAMO</u> <u>ex Imber</u>	Nationality and Port of Registry <u>Italian.</u> <u>Genoa.</u>	Official Number <u>✓</u>	Gross Tonnage <u>2154</u>	Date of Build <u>1914-3.</u>	Particulars of Classification <u>+ 100 A1.</u>
Moulded Dimensions: Length <u>300' ✓</u> Breadth <u>39' 83" ✓</u> Depth <u>22' 25' ✓</u>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>4837</u> tons					
Coefficient of fineness for use with Tables <u>.749 ✓</u>					

Depth for Freeboard (D) Moulded depth ... <u>22' 25"</u> <u>22' 3"</u> Stringer plate ... <u>.04</u> Sheathing on exposed deck <u>nil</u> $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = <u>22' 3" - 3" = 22' 0"</u>	Depth correction (a) Where D is greater than Table depth (D - Table depth) R = <u>2.24</u> $(22.29 - 20) 2.308 = 5.28$ (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) <u>39' 83"</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>9.56</u> Ship's Round of Beam = <u>9' 3" ✓ 9.75</u> Difference <u>Excess .19</u> Restricted to Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) =$ <u>$\frac{.19}{4} \times \frac{74.9}{300} = .011$</u>
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <u>open</u> ...	<u>28.23</u>	<u>14.11</u>			<u>14.11</u>	Standard Height of Superstructure <u>6.51</u>
" overhang ...						" " R.Q.D. ...
R.Q.D. enclosed <u>Series of open spaces between</u>	<u>115.52</u>	<u>57.76</u>			<u>57.76</u>	Deduction for complete superstructure <u>35.33 ✓</u>
" overhang ...						Percentage covered $\frac{S}{L} =$ <u>$\frac{83.33}{300} = 27.78$</u>
Bridge enclosed <u>open</u> ...	<u>14.25</u>	<u>16.71</u>	<u>7.25' 6" 40</u>		<u>16.71</u>	" $\frac{S_1}{L} =$ <u>$\frac{80.58}{300} = 26.86$</u>
" overhang aft ...	<u>20.25</u>	<u>15.19</u>			<u>15.19</u>	" $\frac{E}{L} =$ <u>$\frac{80.58}{300} = 26.86$</u>
" overhang forward ...						Percentage from Table, Line A. <u>37.50</u> <u>76.02 ✓</u>
F'cle enclosed <u>open</u> ...	<u>76</u>	<u>73.48</u>	<u>7.25' 6" 40</u>		<u>73.48</u>	(corrected for absence of forecastle (if required))
" overhang ...	<u>23.48</u>	<u>1.26</u>			<u>1.26</u>	Percentage from Table, Line B. <u>39.93 ✓</u>
Trunk aft ...						(corrected for absence of forecastle (if required))
" forward ...						Interpolation for bridge less than 2L (if required)
Tonnage opening aft ...						Deduction = <u>35.33 + 76.02 = 111.35</u>
" forward ...	<u>24.0</u>	<u>161.80</u>			<u>161.80</u>	<u>39.93</u> <u>14.11</u>
Total ...	<u>250</u>	<u>241.74</u>			<u>241.74</u>	

Sheers checked afloat

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	<u>40.00</u>	1		<u>40.00</u>	<u>26" 26</u>	<u>26.00</u>	1		<u>26.00</u>	Mean actual sheer aft = <u>Defic 41.28 ✓</u>
$\frac{1}{2}$ L from A.P. ...	<u>17.80</u>	4		<u>71.20</u>	<u>4" 8</u>	<u>8.00</u>	4		<u>32.00</u>	Mean actual sheer forward = <u>Excess</u>
$\frac{2}{3}$ L " ...	<u>4.4</u>	2		<u>8.80</u>	<u>0-2</u>	<u>-2.00</u>	2		<u>-4.00</u>	Mean standard sheer forward
Amidships ...		4			<u>0</u>		4			Length of enclosed superstructure forward of amidships =
$\frac{2}{3}$ L from F.P. ...	<u>8.80</u>	2		<u>17.60</u>	<u>12" 13</u>	<u>8.80</u>	2		<u>17.60</u>	" " aft of " =
$\frac{1}{2}$ L " ...	<u>35.60</u>	4		<u>142.40</u>	<u>42" 42</u>	<u>35.60</u>	4		<u>142.40</u>	
F.P. ...	<u>80.00</u>	1		<u>80.00</u>	<u>84" 84</u>	<u>80.00</u>	1		<u>80.00</u>	
Total ...				<u>360.00</u>					<u>294.00</u>	

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{66.00}{18} + 75 - \frac{169}{40} + \frac{7.22}{1.10} = 41.28\%$

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 = 22.29 Ft.
 Summer freeboard = 2.10
 Moulded draught (d) = 20.19

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.05

Addition for Winter North Atlantic Freeboard (if required) = 2.1

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta =$ 5236
 Tons per inch immersion at summer load water line
 $T =$ 23.82

Deduction = $\frac{\Delta}{40T}$ inches = 5.5
 at Ext draught: 20-0: 5132 2349
 20-6: 5275 2386

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

	+	-
Depth Correction ...	<u>5.28</u>	<u>14.11</u>
Deduction for superstructures ...	<u>1.28</u>	<u>26.86</u>
Sheer correction ...	<u>1.22</u>	<u>10</u>
Round of Beam correction ...	<u>10</u>	<u>.01</u>
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...	<u>6.36</u>	<u>14.73</u>

Summer Freeboard = 25.23

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

Tropical Fresh Water Line above Centre of Disc ... 10 1/2
 Fresh Water Line " " ... 5 1/2
 Tropical Line " " ... 5 1/2
 Winter Line below " " ... 5 1/2
 Winter North Atlantic Line " " ... 7 1/2

Tropical Fresh Water Freeboard ... 1-2 3/4
 Fresh Water " " ... 1-7 3/4
 Tropical " " ... 1-8 1/4
 Winter " " ... 2-6 1/4
 Winter North Atlantic " " ... 2-8 1/4

2 halches
on upper DK
in Fcle.
to Fore Peak
4 Chain
Locker
1@ 2-6, 2-6
1@ 2-0, 2-0

18"
32
32
None

None
None
14 Pine
3"
1 1/2"
12 x 24
None.
✓

Tunnel and fidley ventilators of substantial construction and in good condition.
Engine Room skylights of steel with steel hinged flaps having round glass lights in good condition.
Steel hinged storm covers fitted to fidley gratings fastening arrangements to place in order. X

None.

Strong steel deckhouses on Bridge deck covering ladderways to accommodation on Bridge Tweendeck. Wood hinged doors operated both sides 11-10 x 2-0 Sills 15'

~~Hatch to Tweendeck Coal Bunker on Bridge deck. Started side along side Coaming 5' x 6" Coaming 21" x 30. Closed by strong hinged wood cover.~~

This hatch/probably small coaling door, 2'-9" x 2'-3" marked "A" leading from inboard Coal Bunker in Bridge Tweendeck to inside of Boiler Coaming (Donkey Boiler space) Coaling door fitted with sliding steel plate cover.

Coamings in good condition. ~~No~~ Closing appliances fitted to Ventilators by wood flaps.
to answer counter

1 - 4" air pipe Gooseneck 12' high to forepeak. closing appliance fitted

:- One gangway down each side leading into Poop Tween deck 5'-6" x 4'-10" filled with strong steel waterlight hinged down.

Side scuttles to Superstructures only. in strong hinged brass frames.
With hinged deadlights

Is:—
 Upper deck. Guard Rails 3-6 high 4-0 apart 3 Rails
 Bridge & Loop " " " " 4-9 " 3 "
 Upper deck in Well forward. Strong Steel Bulwark. 4-3 high stiffened as per Rule

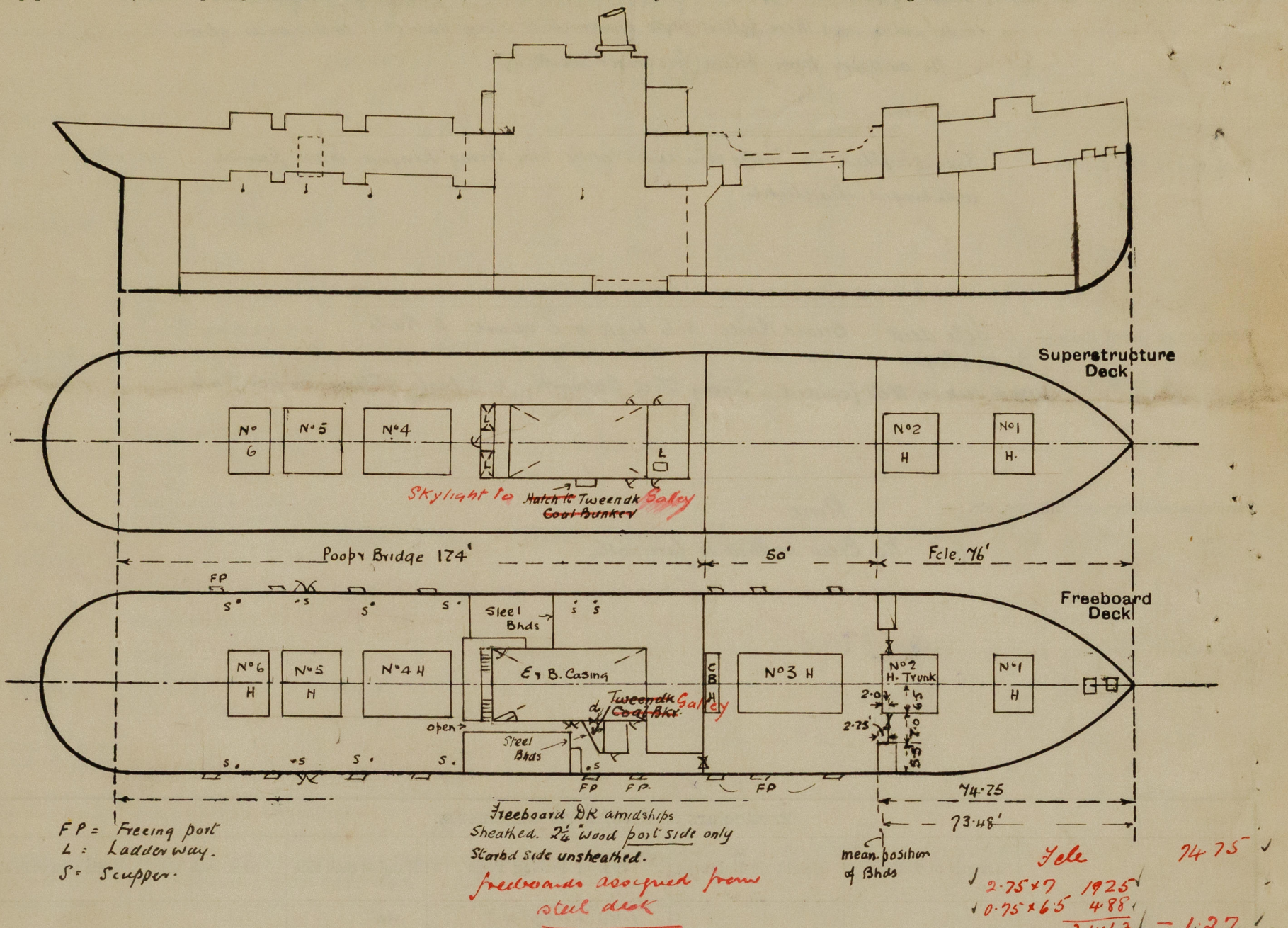
None.
Note No Crew berthed in forecabin
Satisfactory provisions made for rigging life-lines
in fore-cabin if life-lines available.

State position of each freeing port * ... } After Well:— 120-9', 102-9', 46-9' 58-9' port side, abaft 8 8' abaft 4 3' forward Starboardly } from midships
(F. and A. position and height above deck edge) } Forward Well:— 62-5', 39-8', 26-5' forward. } to center
State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— fitted with steel hinged shutters } of FP
and/or bars 4 1/8" apart }
Additional area where sheer is less than standard. all oills 12" above deck edge

Exposed Machinery Casings on Superstructure Decks	26	26	3 x 3 x 34	24"	None	4-10 x 2-1	15'	11'-0"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	26 9-44	26	3 x 3 x 34	24	"	4-10 x 2-1 4-6 x 4-6	18 18	4-3
Deckhouses on Flush Deck Ships ...								

Poop Bulkhead	
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	
Bridge, Forward Bulkhead	<p><i>Riveted channels filled full height. In this at present is filled strong wood frame and opening closed by 3" solid portable wood plug secured by 4 wood clips 5"x2"</i></p>
Forecastle Bulkhead	
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	<p><i>Storm boards full height in riveted channels</i></p>
Exposed Machinery Casings on Super-structure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	<p><i>Strong steel & wood hinged doors operated both sides</i></p>
Deckhouses on Flush Deck Ships ...	<p><i>Do</i></p>

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:—

This vessel is at present under examination for 2nd Special Survey No. 2. which, it is anticipated will be completed before the vessel leaves this port.

A list of recommendations appertaining to this report and not yet carried out, is attached:

overhang 76.00

$$\begin{array}{r} 76.00 \\ - 2.52 \\ \hline 73.48 \end{array}$$

Long Poop consists of poop & series of bridges due to freeing ports in the side plating
 The following deduced from particulars of freeing ports

Bridge forward, built with class 2 for open ast	ft
20.25	
Series of open bridges	115.52
poop open	28.23
	<u>164.00</u>
freeing ports star side	
4 x 1.75	} 10
2 x 1.5	
Total	174.

Builder's name and yard number Swan Hunter and Wigham Richardson. N° 926

Names of sister ships

Owners E. M. Angeloni

Fee £ 10 : 4 : -

Received by me



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