

607

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having Roof and forecastle

Port of Survey Havana

(Type of Superstructures.)

Date of Survey November 15-1933

Ship's Name Manuel Rienda

Nationality and Port of Registry Cuban Havana

Official Number 1375

Gross Tonnage 1920-6

Date of Build 1920-6

Name of Surveyor J. F. Holmes

Moulded Dimensions: Length 210' Breadth 44' Depth 14'

Moulded displacement at moulded draught = 85 per cent. of moulded depth 2529 tons

Coefficient of fineness for use with Tables .805

Particulars of Classification 100. A.1.
S.S. Hwa No 3-10-32
Self propelling, cargo carrying
petroleum via bulk

Depth for Freeboard (D)

Moulded depth 14.0

Stringer plate 0.375
.04

Sheathing on exposed deck none

$T \left(\frac{L-S}{L} \right) =$

Depth for Freeboard (D) = 14.03

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = (14.03-14.00) x 1.615 = +.05

(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) 44.0

Standard Round of Beam = $\frac{B \times 12}{50} =$ 10.56

Ship's Round of Beam = 10.4

Difference .31 deficient

Restricted to

Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) =$ $\frac{.31}{4} \times .2146 = +.02$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed	<u>45.00</u> <u>45.6</u>	<u>45.00</u>	<u>7'-0"</u>	<u>✓</u>	<u>45.00</u>
" overhang	<u>✓</u>				
R.Q.D. enclosed	<u>✓</u>				
" overhang	<u>✓</u>				
Bridge enclosed	<u>✓</u>				
" overhang aft	<u>✓</u>				
" overhang forward	<u>✓</u>				
F'cle enclosed	<u>40.50</u> <u>41.0</u>	<u>40.50</u>	<u>7'-9 1/2"</u> <u>7'-11 1/2"</u>	<u>✓</u>	<u>40.50</u>
" overhang	<u>✓</u>				
Trunk aft	<u>✓</u>				
" forward	<u>113'-6"</u> <u>79.46</u>	<u>79.46</u>	<u>4'-0"</u> <u>42.72</u>	<u>sub page 4</u>	<u>59.67</u>
Tonnage opening aft	<u>✓</u>				
" forward	<u>✓</u>				
Total	<u>85.50</u>	<u>164.96</u>			<u>145.17</u>

Standard Height of Superstructure 6.00

" " R.Q.D. ✓

Deduction for complete superstructure 27.00

Percentage covered $\frac{S}{L} =$ 40.72%

" " $\frac{S_1}{L} =$ 78.54%

" " $\frac{E}{L} =$ 69.15%

Percentage from Table, Line A. Tanker 62.05%
(corrected for absence of forecastle (if required))

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

Interpolation for bridge less than 2L (if required)

Deduction = 27.00 x .6205 = -16.75

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P.	<u>31.00</u>	<u>1</u>	<u>✓</u>	<u>31.00</u>	<u>10</u>	<u>10.12</u>	<u>10.12</u>	<u>1</u>	<u>10.12</u>
1/4 L from A.P.	<u>13.79</u>	<u>4</u>	<u>✓</u>	<u>55.16</u>	<u>3 1/2</u>	<u>20</u>	<u>20</u>	<u>4</u>	<u>80</u>
1/2 L "	<u>3.41</u>	<u>2</u>	<u>✓</u>	<u>6.82</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>✓</u>
Amidships	<u>✓</u>	<u>4</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>4</u>	<u>✓</u>
3/4 L from F.P.	<u>6.82</u>	<u>2</u>	<u>✓</u>	<u>13.64</u>	<u>1</u>	<u>1</u>	<u>1</u>	<u>2</u>	<u>✓</u>
1/4 L "	<u>27.59</u>	<u>4</u>	<u>✓</u>	<u>110.36</u>	<u>23</u>	<u>8.00</u>	<u>8.00</u>	<u>4</u>	<u>32.00</u>
F.P.	<u>62.00</u>	<u>1</u>	<u>✓</u>	<u>62.00</u>	<u>48</u>	<u>48.00</u>	<u>48.00</u>	<u>1</u>	<u>48.00</u>
Total	<u>144.61</u>	<u>✓</u>	<u>✓</u>	<u>278.98</u>	<u>92 1/2</u>				<u>90.92</u>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) =$ $\frac{188.06}{18} (.75 - .2036) = +5.71$

If limited on account of midship superstructure.

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

Mean actual sheer aft = Deficient

Mean standard sheer aft =

Mean actual sheer forward = Deficient

Mean standard sheer forward =

Length of enclosed superstructure forward of amidships = Tanker

" " aft of " = Tanker

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 14.04

Summer freeboard = 1.33

Moulded draught (d) = 12.71

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.17 = 3 1/4

Addition for Winter North Atlantic Freeboard (if required) = 2.10 = 2"

Deduction for Fresh Water.

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 = 3 1/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{.805 + .65}{1.36} = \frac{1.455}{1.36}$

Depth Correction06

Deduction for superstructures 16.75

Sheer correction 5.71

Round of Beam correction02

Correction for Thickness of Deck amidships

Other corrections, scantlings, etc.

Summer Freeboard = 16.01

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

Tropical Fresh Water Line above Centre of Disc	<u>6 1/2"</u>	Tropical Fresh Water Freeboard	<u>1'-4 1/4"</u>
Fresh Water Line " "	<u>3 1/2"</u>	Fresh Water " "	<u>1'-0 3/4"</u>
Tropical Line " "	<u>3 1/4"</u>	Tropical " "	<u>1'-0 3/4"</u>
Winter Line below " "	<u>3 1/4"</u>	Winter " "	<u>1'-7 1/4"</u>
Winter North Atlantic Line " "	<u>5 1/4"</u>	Winter North Atlantic " "	<u>1'-9 1/4"</u>

10m, 2, 31

RECEIVED

20-MAR 1934

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	...	...	No. 1	Freeboard deck	No. 2	Forecastle deck	No. 3	Trunk	
Dimensions of Hatchway	...	...	9'-5" x 13'-5"		10'-2" x 14'-5"		10'-4" x 4'		
COAMINGS	Height above Deck ...	...	3 1/4"		2 1/2"		4" x 4" x 1/2" angles		
	Thickness ...	...	1/2"		1/2"				
	Stiffeners ...	...	1/2"		6" x 3 1/2"				
	Brackets, Stays ...	...	✓					
HATCH BEAMS	Number ...	...	4'-8"		5'-0"				
	Spacing ...	...	3' x 5" x 3/8"		7/8" 3' x 3" x 3/8"				
	Scantling and Sketch	...	3/16" x 9" x 12" at centre		1/2" centre plate 9" x 12" x 7/16"				
	Bearing Surface	...	3 1/2"		3"				
FORE AND AFTERS	Number ...	...	✓					
	Spacing ...	...						
	Unsupported Lengths	...							
	Scantling and Sketch	...							
	Bearing Surface	...							
HATCH COVERS	Material ...	...	Wood		Wood		10 - Steel, hinged		
	Thickness ...	...	2 3/4"		2 3/4"		covers 3/8" thick and		
	How fitted	...	F & A		F & A		stiffened		
	Bearing Surface	...	3"		4"		1/2" with jointing		
Spacing of Cleats	...	...	✓		19"				
Number of Tarpaulins	...	...	2		2				
*Are wood fore and afters steel shod at all bearing surfaces? <i>none</i> Are battens and wedges efficient and in good condition? <i>none</i> Are tarpaulins in good condition and in accordance with rule requirements? <i>yes</i> Are lashings provided in accordance with rule requirements? <i>none</i>									

Particulars of fiddley, funnel and ventilator coamings:—
*Fiddley 30" above deck; covers hinged, all in good condition.
 Funnel casing and bonnet - good condition.
 Ventilator coamings 36" high, on top of fiddley.*

Particulars of Flush Bunker Scuttles:— *none.*

Particulars of Companionways:—
*One in each side leading down from poop deck to main deck.
 Two watertight steel doors at top, and four steel doors at bottom;
 two each side, one to engine room and one to passage between engine
 room casing and rooms.
 Top door sills 18" bottom door sills 9"*

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
*no ventilators on freeboard deck.
 Ventilator coamings on poop and forecastle decks 36" high, all
 fitted with wood caps for closing; also canvas covers for weels.*

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
*One in forecastle deck, 18" high,
 goose neck; fitted with wood plug
 attached to pipe by chain.*

Particulars of Gangway Cargo and Coaling Ports:— *none.*

Particulars of Scuppers and Sanitary Discharge Pipes —
*Scuppers from poop deck - direct overboard.
 Aft - sanitary discharge pipes lead through deck into engine
 room, connected to a strong cast iron chest, fitted with metal
 flap valve; chest is one foot below main deck.
 Forecastle sanitary discharge valve chest is above main deck.*

Particulars of Side Scuttles: *Under forecastle deck: 10" all fitted with dead lights.
 Under poop deck: 9" all fitted with dead lights*

Particulars of Guard Rails:—
*Chain guards run through stanchions round all decks
 and each side of trunk top.*

Particulars of Gangways, Lifelines, etc.:— *none.*

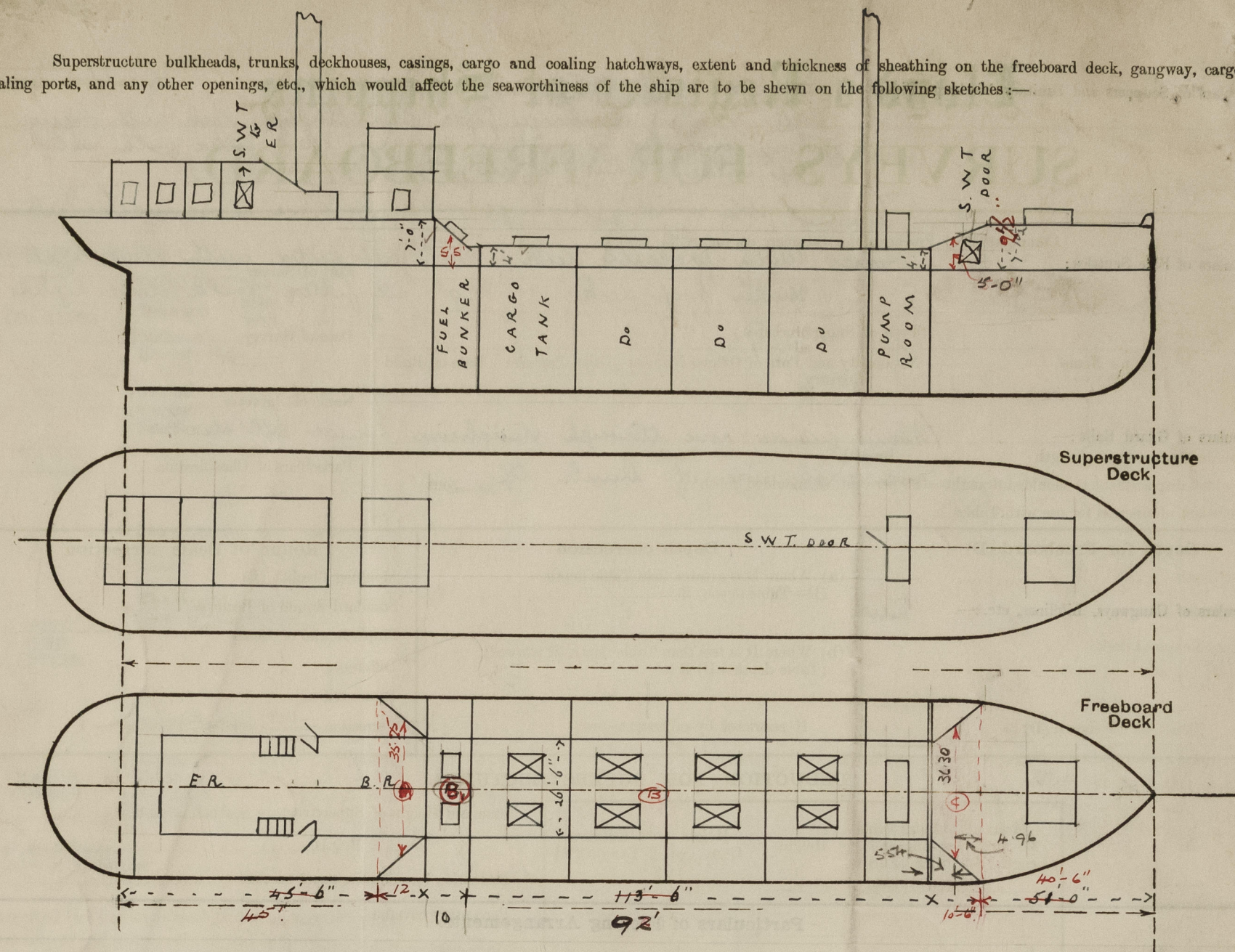
Particulars of Freeing Arrangements.						
	Length of Bulwark	Height of Bulwark	Size of Freeing Ports	Number each side	Area each side	Rule area each side
After Well	✓					
Forward Well	✓					
State position of each freeing port ... After Well:— (F. and A. position and height above deck edge) } Forward Well:— State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— 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		3/8"	7" x 5 1/2" x 1/2" B.A.	24"	Brackets top and bottom	2 - 10" scuttles	✓	7'-0"
Raised Quarter Deck Bulkhead								
Bridge, After Bulkhead								
Bridge, Forward Bulkhead								
Forecastle Bulkhead		5/16"	3" x 4" x 5/16" L	23" - 28"	Brackets top and bottom	2 - 23" x 5'-0"	18"	7'-9 1/2" - 7'-11 1/2"
Trunk, Aft								
Trunk, Forward		3/8"	6" x 4" x 3/8" B.A.	24"	End brackets	10 - 4' x 4'	4"	4'-0"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks				horizontal		Hinged steel covers, 3/8" thick, stiffened, jointed, hinged bolts.		
Exposed Machinery Casings on Superstructure Decks								
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	2 - 10" scuttles, fitted with dead lights
Raised Quarter Deck Bulkhead	
Bridge, After Bulkhead	Pump room: one steel watertight door, manipulated both sides
Bridge, Forward Bulkhead	
Forecastle Bulkhead	2 steel watertight doors; manipulated from both sides
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	Over: 2 steel watertight doors; manipulated from both sides
Exposed Machinery Casings on Superstructure Decks	
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	2 steel doors at bottom of each companion ladder; one to engine room, one to passage; sills 9" high
Deckhouses on Flush Deck Ships	

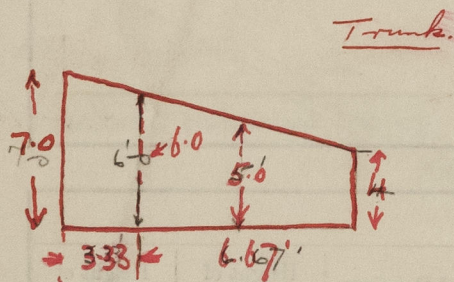
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Superstructure bulkheads, trunks, deckhouses, casings, cargo and coaling hatchways, extent and thickness of sheathing on the freeboard deck, gangway, cargo and coaling ports, and any other openings, etc., which would affect the seaworthiness of the ship are to be shewn on the following sketches:—

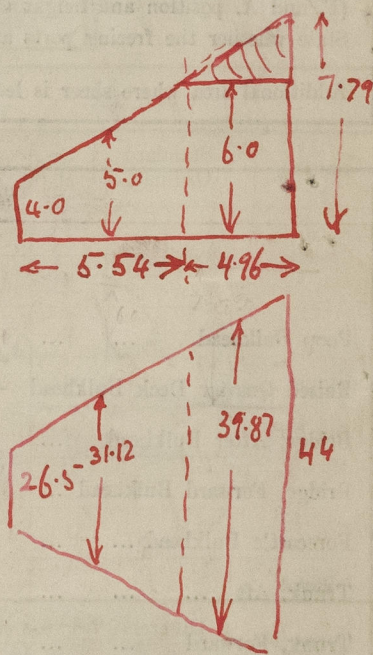


Vessel was examined in dry dock. September 11th 1933

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



$$\begin{aligned}
 (A) \quad 12 \times \frac{35.25}{44} &= 9.61 \times \frac{4}{6} = 7.61 \\
 (B) \quad \frac{92}{44} \times \frac{26.5}{44} &= 55.41 \times \frac{4}{6} = 36.94 \\
 (B) \quad 3.33 \times \frac{26.5}{44} &= 2.01 \\
 6.67 \times \frac{26.5}{44} &= 4.02 \times \frac{5}{6} = 3.35 \\
 (C) \quad 5.54 \times \frac{31.12}{44} &= 3.92 \times \frac{5}{6} = 3.27 \\
 4.96 \times \frac{39.87}{44} &= \frac{4.49}{79.46} \quad \checkmark \quad \frac{4.49}{59.67}
 \end{aligned}$$



Builder's name and yard number Todd Shipyard Corporation

Names of sister ships W. E. Gilvie

Owners Sinclair Cuba Navigation Company

Fee £ 45

Received by me ☒



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