

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having POOP, BRIDGE, FORECASTLE

Port of Survey Rotterdam

Date of Survey 19-6-33

Name of Surveyor J. H. Hehrmeijer

Particulars of Classification +100 A1.
S.S. Ver N°2-27

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
ONASSI PINELOPI	GREEK	5404	5404	1919/12
Moulded Dimensions: Length 399.4' Breadth 52.4' Depth 31'-1"				
Moulded displacement at moulded draught = 85 per cent. of moulded depth 12335 tons				
Coefficient of fineness for use with Tables .781				

Depth for Freeboard (D)				
Moulded depth	...	...	...	31'-1"
Stringer plate	...	...	...	44"
Sheathing on exposed deck	$T \left(\frac{L-S}{L} \right) =$			
Depth for Freeboard (D) =	31.12			

Depth correction	
(a) Where D is greater than Table depth (D - Table depth) R =	(31.12 - 26.63) 3.00 = + 13.47"
(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)	52.4'
Standard Round of Beam = $\frac{B \times 12}{50}$	12.58"
Ship's Round of Beam	13"
Difference	.42"
Restricted to	
Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right)$	$\frac{.42}{4} \times .498 = -.05$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	49'-3"	49.25	7'-11 1/2"		49.25
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...	112'-8"	112.67	7'-11 1/2"		112.67
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	38'-7"	38.58	7'-11 1/2"		38.58
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	200.50	200.50			200.50

Standard Height of Superstructure	7.494'
" " R.Q.D.	
Deduction for complete superstructure	41.96'
Percentage covered $\frac{S}{L} =$	50.20%
" $\frac{S_1}{L} =$	50.20%
" $\frac{E}{L} =$	50.28%
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. (corrected for absence of forecastle (if required))	36.2%
Interpolation for bridge less than 2L (if required)	
Deduction =	41.96 x 36.2 = - 15.19'

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	49.94	1		49.94	65.50	65.50	1		65.50
1/4 L from A.P. ...	22.22	4		88.88	25.87	25.87	4		103.48
1/2 L " ...	5.49	2		10.98	6.46	6.46	2		12.92
amidships ...		4					4		
3/4 L from F.P. ...	10.99	2		21.98	13.87	13.87	2		27.74
1/4 L " ...	44.45	4		177.80	55.49	55.49	4		221.96
F.P. ...	99.88	1		99.88	126.25	126.25	1		126.25
Total ...	449.46			449.46					557.85

$$\text{Correction} = \frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{108.39}{18} (.75 - .251) = -3.00'$$

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 =	31.12
Summer freeboard =	5.98
Moulded draught (d) =	25.14'

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = 6 1/4"

Addition for Winter North Atlantic Freeboard (if required =

Deduction for Fresh Water.

Displacement in salt water at summer load water line

Δ =

Tons per inch immersion at summer load water line

T =

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

= 6 1/4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction	13.47'
Deduction for superstructures	15.19'
Sheer correction	3.00'
Round of Beam correction	.05'
Correction for Thickness of Deck amidships	
Other corrections, scantlings, etc.	
	13.47 18.24

Summer Freeboard = 7.00'

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

Tropical Fresh Water Line above Centre of Disc	12 1/2"
Fresh Water Line	6 1/4"
Tropical Line	6 1/4"
Winter Line below	6 1/4"
Winter North Atlantic Line	

Tropical Fresh Water Freeboard	4.11"
Fresh Water	5.52"
Tropical	5.52"
Winter	6.6"
Winter North Atlantic	

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										
FREEBOARD DECK					BRIDGE DECK					
Description of Hatchway	...	...	...	...	N°1	N°2	N°2A	N°3	N°4	N°2A
Dimensions of Hatchway	...	...	...	...	32'6"	34'8"	10'8"	34'8"	30'4"	10'8"
COAMINGS	Height above Deck	...	...	...	2'9"	2'9"	2'10"	2'9"	2'9"	2'9"
	Thickness	...	...	...	7/16	7/16	x.50	7/16	7/16	7/16
	Stiffeners	...	...	...	2" x 3	x.44	✓	2" x 3	x.44	2" x 3
	Brackets, Stays	...	...	...	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Number	...	...	...	6	6	6	6	5	6
	Spacing	...	...	...	equal	equal	equal	equal	equal	equal
	Scantling and Sketch	...	...	...	24 x 40	as N°1	as N°1	as N°1	as N°1	as N°1
	Bearing Surface	...	...	...	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2
FORE AND AFTERS	Number	...	...	...	3	3	3	3	3	3
	Spacing	...	...	...	4'6"	4'6"	4'6"	4'6"	4'6"	4'6"
	Unsupported Lengths	...	...	...	10'0"	10'0"	10'0"	10'0"	10'0"	10'0"
	Scantling* and Sketch	...	...	...	10" x 36	10" x 36	10" x 36	10" x 36	10" x 36	10" x 36
HATCH COVERS	Material	...	...	...	pine	pine	pine	pine	pine	pine
	Thickness	...	...	...	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
	How fitted	...	...	...	longitudinal	longitudinal	longitudinal	longitudinal	longitudinal	longitudinal
	Bearing Surface	...	...	...	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Spacing of Cleats	...	...	...	...	26 x 6	26 x 6	24 x 6	26 x 6	26 x 6	24 x 6
Number of Tarpaulins	...	...	...	...	2	2	2	2	2	2

*Are wood fore and afters steel shod at all bearing surfaces? ☒
 Are battens and wedges efficient and in good condition? ☒
 Are tarpaulins in good condition and in accordance with rule requirements? ☒
 Are lashings provided in accordance with rule requirements? ☒

Particulars of hatches, funnel and ventilator coamings:—

Steel hatches covered by strong steel hinged covers.
 Funnel and ventilator coamings in efficient condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

none fitted

Particulars of Companionways:—

on poop deck. two steel companion ways of opening 4'6" x 2'4" with 11" steel hinged doors operated from both sides.

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

On freeboard deck:
 0 vents coaming 3'3" x 40" $\phi = 18"$
 2 vents " 11'4" x 40" $\phi = 18"$ supported with wave plugs and canvas covers
 On superstructure decks:
 3 vents coaming 3'0" x 20" $\phi = 9"$
 2 vents " 3'0" x 36" $\phi = 13"$
 2 vents " 3'4" x 40" $\phi = 17"$
 4 vents " 3'3" x 44" $\phi = 18"$
 2 vents coaming 3'0" x 20" $\phi = 12"$
 2 vents " 2'0" x 44" $\phi = 25"$ stays fitted

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

On freeboard deck:
 2 air pipes height 7" protected by fore-castle.
 4 air pipes height 20" x 27"
 On superstructure deck:
 4 air pipes height 11" x 13"

All ventilator coamings constructed in accordance with the Rules and closed with wave plugs and canvas covers.
 All airpipes closed with canvas covers.

Particulars of Gangway Cargo and Coaling Ports:—

none fitted



Marine Plans

Particulars of Scuppers and Sanitary Discharge Pipes —

Sanitary discharge pipes and scuppers fitted with storm valves at ship's side.

Particulars of Side Scuttles:

All side scuttles above foreward deck and fitted with hinged deadlugs.
All side scuttles of substantial construction.

Particulars of Guard Rails:—

Bulwark on foreward deck height 3'-7" stanchions plate (flanged) 11" x 2 1/2" x .50"
and 6'-0" apart. rail profile L 7 1/2" x 3 x .40.
On fore castle guardrail 3'-4" height having 2 rows stanchions 5'-2" apart.
On poop guardrail 3'-6" height having 3 rows stanchions 4'-0" apart.
On bridge deck bulwark 3'-3" height stanchions 5'-6" apart.

Particulars of Gangways, Lifelines, etc.:—

Lifelines fitted in fore and after well alongside of hatchways.

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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	99'-5"	3'-7"	4'-0" x 15"	4	20 sq	20 sq
Forward Well	99'-6"	3'-7"	4'-0" x 15"	4	20 sq	20 sq
State position of each freeing port } After Well:— See sketch (F. and A. position and height above deck edge) } Forward Well:— height above deck edge 13'-14" State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— no shutters, two horizontal bars.						
Additional area where sheer is less than standard.						

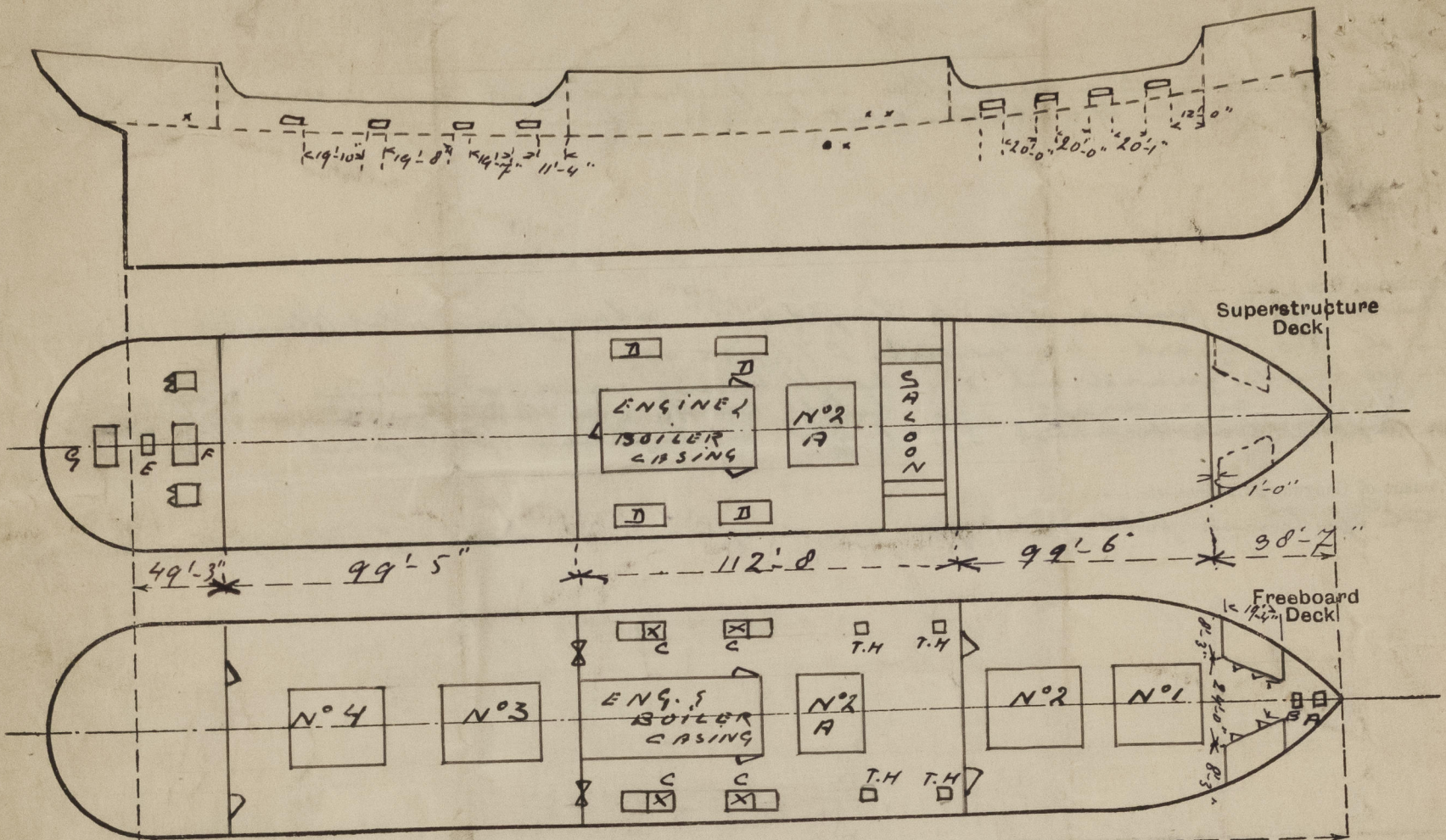
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead	3'-3" x .44	.44	6 x 3 1/2 x .36	30"	none	5'-0" x 2'-0"	19 1/2"	7'-0 1/2"
Raised Quarter Deck Bulkhead ...	"	"	"	"	"	"	"	"
Bridge, After Bulkhead	4'-0" x .44	.44	4 x 3 x .40	30"	none	3'-9" x 5'-2"	16"	7'-11 1/2"
Bridge, Forward Bulkhead	3'-9" x .44	.40	29 x 3 1/2 x .50	28"	top & bottom brackets	5'-0" x 3'-6"	21"	7'-11 1/2"
Forecastle Bulkhead	"	.32	4 x 3 1/2 x .36	28"	none	5'-0" x 2'-0"	18"	7'-11 1/2"
Trunk, Aft	"	"	"	"	"	"	"	"
Trunk, Forward	"	"	"	"	"	"	"	"
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	"	"	"	"	"	"	"	"
Exposed Machinery Casings on Super-structure Decks	19" x .44	.32	4 x 3 x 2 1/2 x .40	26"	top brackets	4'-11" x 2'-0"	18"	7'-10"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	19" x .44	.32	4 x 3 x 2 1/2 x .40	26"	"	5'-4" x 2'-0"	19"	7'-11 1/2"
Deckhouses on Flush Deck Ships ...	"	"	"	"	"	"	"	"

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

Poop Bulkhead	Steel hinged watertight doors secured by toggles
Raised Quarter Deck Bulkhead ...	"
Bridge, After Bulkhead	Shippingboard 3" fitted in channel riveted bars at full height
Bridge, Forward Bulkhead	Steel hinged watertight doors secured by toggles
Forecastle Bulkhead	"
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	"
Exposed Machinery Casings on Super-structure Decks	Steel hinged doors manipulated from both sides
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	Steel hinged doors manipulated from both sides
Deckhouses on Flush Deck Ships ...	"

Miramare

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:—



HATCHES. SIZE 29"x29" coaming 25"x. 36 - rest 2 1/2" wood hatch 2 1/2" } complete
 " B " 23"x20" " 25"x. 36 " 2 1/2 " " 2 1/2 " } battening
 " C " 41 1/4"x41 1/4" " 10"x3 1/2"x. 50 " 2 1/2 " " 2 1/2 " } down
 " D " 81 1/4"x41 1/4" " 19"x. 40. " 1 3/4 " " 2 1/2 " } arrangement
 " E " 29"x29" " 16"x. 36 " 1 3/4 " " 2 1/2 " } 2 tarpaulins
 skylight 7' 1/2"x4' 10" " height 14"x30"x. 36 steel flaps
 1" x 3' 9" " 14"x30"x. 36 steel flaps
 1" x 3' 9" " 14"x30"x. 36 steel flaps
 Note any special features in the construction of the ship:— 2 1/2" wood hatch complete battening
 arrangement 2 tarpaulins

It is stated by the Owners that special survey N°3 has been done at Montreal
 May 1933.
 Particulars for this report have been taken whilst vessel was lying
 afloat.

6/11/33

Builder's name and yard number Canadian Vickers, Ltd. Montreal

Name of ship Miramare

Owner A. S. Onassis

Fee £ 163.20 will be Received by me R. H. Wehrmeyer