

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for ~~Steamer, Sailing Ship, Tanker~~
having Poof, Trunk, Forecastle

(Type of Superstructures.)

Ship's Name T.S.S. "APURE"	Nationality and Port of Registry Maracaibo, Venezuela	Official Number ✓	Gross Tonnage 3164	Date of Build 1928-5
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Moulded Dimensions: Length **325' 0"** Breadth **55' 2"** Depth **16' 6"**
Moulded displacement at moulded draught = 85 per cent. of moulded depth
Coefficient of fineness for use with Tables **.848**

Port of Survey Maracaibo
Date of Survey 19th April 1935
Name of Surveyor S. S. Whitman
Particulars of Classification +100. A1.
S.S. Reg. No. 1-32.
Carrying petroleum in bulk.

Depth for Freeboard (D) Moulded depth ... 16' 50" Stringer plate04 Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ Depth for Freeboard (D) = 16' 6 1/4"	Depth correction (a) Where D is greater than Table depth (D - Table depth) R = (b) Where D is less than Table depth (if allowed) (Table depth - D) R = $(21.67 - 16.54) \times 2.5 = -12.82$ If restricted by superstructures	Round of Beam correction Moulded Breadth (B) 55' Standard Round of Beam = $\frac{B \times 12}{50} = 13.2$ Ship's Round of Beam = 13' 7 1/2" Difference .55 Restricted to Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{.55}{4} \times 2998 = -1.04$
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DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poof enclosed ...	75.40	75.20	8.0	✓	75.70
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed ...					
" overhang aft ...					
" overhang forward ...					
F'cle enclosed ...	39.3	39.3	8.0	✓	39.30
" overhang ...					
Trunk aft 203. 276		112.59	8.0	✓	112.59
" forward ...					
Tonnage opening aft ...					
" " forward					
Total ...	115	127.59			227.59

Standard Height of Superstructure	6.75
" " R.Q.D.	
Deduction for complete superstructure	37
Percentage covered $\frac{S}{L} =$	35.39
" " $\frac{S_1}{L} =$	70.02
" " $\frac{E}{L} =$	70.02
Percentage from Table, Line A.	Tanker 63.02
(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 =	$37 \times 63.02 = -23.32$

SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product
A.P. ...	42.50	1	42.50	30	30	1	30
1/8 L from A.P. ...	18.91	4	75.64	2	2	4	8
2/8 L " ...	4.615	2	9.35	-	-	2	-
Amidships ...	-	4	✓	-	-	4	-
3/8 L from F.P. ...	9.37	2	18.70	-	-	2	-
1/4 L " ...	37.82	4	151.28	4.0	4	4	16
F.P. ...	85	1	85	54	54	1	54
Total ...			382.47				108

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{274.47}{18} (.75 - .1769) = +8.74$

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 = **16.54**
Summer freeboard = **2.02**
Moulded draught (d) = **14.52**

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = **3.63 = 3 3/4**
Addition for Winter North Atlantic Freeboard (if required) = **3 1/2 + 3 3/4 = 7**

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 6344$
Tons per inch immersion at summer load water line
 $T = 38.45$
Deduction = $\frac{\Delta}{40T}$ inches
= **4.13**
= **4 1/4"**

TABULAR FREEBOARD corrected for Flush Deck (if required)
Correction for coefficient $\frac{.848 + .68}{1.36} = \frac{1.528}{1.36}$

	+	-
Depth Correction ...		12.82
Deduction for superstructures ...		23.32
Sheer correction ...	8.74	.04
Round of Beam correction ...		
Correction for Thickness of Deck amidships ...		
Other corrections, scantlings, etc. ...		
	8.74	36.18
Summer Freeboard =		24.36

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

Tropical Fresh Water Line above Centre of Disc ...	8
Fresh Water Line " " ...	4 1/4
Tropical Line " " ...	3 1/4
Winter Line below " " ...	3 1/4
Winter North Atlantic Line " " ...	7

Tropical Fresh Water Freeboard ...	2-0 1/4
Fresh Water " " ...	1-4 1/4
Tropical " " ...	1-8
Winter " " ...	2-4
Winter North Atlantic " " ...	2-7 1/2

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway	18" O.T.H. Main Cargo Trunk Top	20" O.T.H. Fuel Tanks Trunk Top	1" W.T.H. Fore Hold Trunk Top	2" W.T.H. F.W.P. Spaces Poop Deck	1" W.T.H. Sec. Pos. Poop Deck	2 manholes F.O.T. sides Trunk Top	2" W.T.H. Chan. Ledges Fore Hold Upper Deck	1" W.T.H. Fore Hold Upper Deck	12" O.T.H. manholes wing Tanks Upper Deck
Dimensions of Hatchway	4'0" x 2'6"	2'6" x 2'6"	2'6" x 2'6"	3' x 3'	3' x 3'	16' x 2'2"	2'0" x 2'0"	2' x 7'	8' 2 1/2" dia. 4' x 2'4" x 8'
COAMINGS	Height above Deck	6" 3" angle	6" 3" angle	4" 4"	4" 4"	4" 4"	4" 4"	4" 4"	6" 3 1/2" angle
	Thickness	40	40	44	44	44	44	40	40
	Stiffeners	✓	✓	6" 3" BA. and toggles secured to channel	angles fitted	✓	✓	✓	✓
	Brackets, Stays	✓	✓	✓	✓	✓	✓	✓	✓
HATCH BEAMS	Number	2-1 1/2" angle rivetted to plate with coaming with 1 1/2" channel bar rivetted to same for ply hatch cover	Same as main cargo hatch	Same as main cargo hatch	bar for packing. 2 1/2" half 9 1/2" bar rivetted around top of hatch and rivetted angles inside for packing	2 1/2" half 9 1/2" bar rivetted around top of hatch and rivetted angles inside for packing	2 1/2" half 9 1/2" bar rivetted around top of hatch and rivetted angles inside for packing	2 1/2" half 9 1/2" bar rivetted around top of hatch and rivetted angles inside for packing	channel bar rivetted to inside of manhole for packing. cover plates 4" 4" secured by 3" x 1/2" cross 4 toggles
	Spacing	1 1/2" channel bar rivetted to same for ply hatch cover	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
	Scantling and Sketch	1 1/2" channel bar rivetted to same for ply hatch cover	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
	Bearing Surface	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
FORE AND AFTERS	Number	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
	Spacing	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
	Unsupported Lengths	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
	Scantling and Sketch	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
HATCH COVERS	Material	Steel	Steel	Steel	Steel	Wood	Steel	Steel	Steel
	Thickness	40	40	30	40	2 1/2"	40	30	44
	How fitted	hinged 10 toggles. 0.11	hinged 8 toggles. 0.11	hinged 22 toggles. 0.11	hinged 10 toggles. 0.11	secured by 4 toggles. 0.11	hinged 10 toggles. 0.11	hinged 10 toggles. 0.11	hinged 10 toggles. 0.11
	Bearing Surface	40 plate with 3" vent pipe with wire gauge 8" slight ply rivetted and secured by 2 toggles	Same as main cargo hatch	Same as main cargo hatch	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles	40 plate of hatch secured by 6 toggles
Spacing of Cleats									
Number of Tarpaulins									
<p>*Are wood fore and afters steel shod at all bearing surfaces? ✓</p> <p>Are battens and wedges efficient and in good condition? ✓</p> <p>Are tarpaulins in good condition and in accordance with rule requirements? ✓</p> <p>Are lashings provided in accordance with rule requirements? ✓</p>									

Particulars of fiddle, funnel and ventilator coamings:— Entrance to fiddle P&S from poop deck through steel hinged half doors with 18" sill. Fiddle top fitted with steel hinged storm covers and in efficient condition. Fiddle, funnel and ventilators with coamings in efficient condition.

Particulars of Flush Bunker Scuttles:— None

Particulars of Companionways:— Companionways P&S with steel hinged doors with 18" sill leading from the Poop Deck down to the crew quarters on the upper deck. Steel doors fitted with 4 toggles capable of being manipulated from both sides. 8 steel ladders with efficient hand rails leading down from the forecastle deck and trunk top to the upper deck.

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:—
 Forecastle Deck, 1-8" dia. 36" x 5/16" coaming to forecastle. Poop Deck, 2-9" dia. 30" x 1/2" coaming to F.W.P. spaces.
 Trunk Top, 2-18" dia. 36" x 5/16" " fore-hold. 1-12" " 30" x 1/6" " crew quarters.
 1-6" " 30" x 1/4" " dry store.
 2-15" " 30" x 1/2" " steering gear.

Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—
 Forecastle Deck, 1-4" dia. to fore-peak tank 15" above deck.
 Trunk Top, 12-3" dia. fitted with wire gauge to main cargo tanks. 20" above deck.
 2-3" dia. " " " fuel oil " 90" " "
 upper Deck, 12-6" dia. to wing tanks. 8 ft above deck and bracketed to trunk side plating.

Particulars of Gangway Cargo and Coaling Ports:—
 Poop Deck, 2-2 inch air and sound to F.W. tanks. 15" above deck.
 4-2 1/2" " " " " B.R. " 15" " "
 4-2 1/2" " " " " " E.R. " 15" " "
 4-6" air vents to W.C's 15" " "
 2-3" air and sound to A.P. tank 15" " "

Efficient means of closing provided for all ventilators and air pipes.

Particulars of Scuppers and Sanitary Discharge Pipes — 1 1/2" to 4" dia storm discharge valves fitted on ships side on discharges from W.C's and washrooms etc. also efficient traps fitted at the inboard end of discharges from wash basins etc. Storm valves of cast brass with brass valves and pins cast on the valves. Scupper pipes 3 1/2 inch leading through the centre wing tanks P&S from the upper deck.

Particulars of Side Scuttles:— all side scuttles fitted with hinged doors and covers permanently attached.

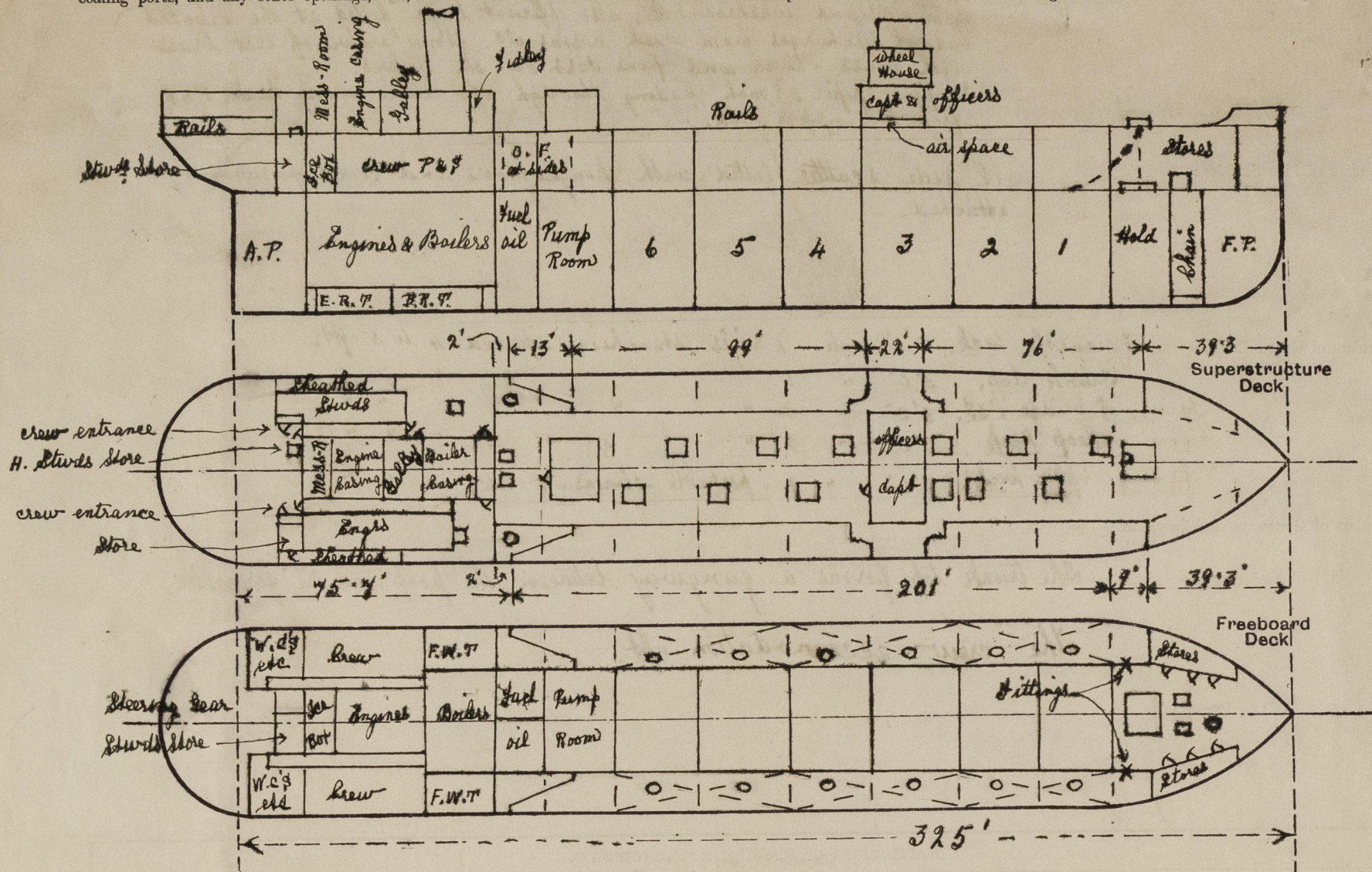
Particulars of Guard Rails:—
 Forecastle Deck, 3'0" high. 2 rails stanchions spaced 4 to 5 ft.
 Trunk Top, 3'0" " " " " " "
 In way of bridge P&S, 3'0" " 2 " " " " "
 Poop Deck, 3'0" " 2 " " " " "
 upper Deck, 3'0" " 2 portable chains " " " "

Particulars of Gangways, Lifelines, etc.:—
 The trunk top forms a gangway between the poop and the forecastle.
 The crew accommodation aft.

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	open rails on all weather decks. ✓					
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 after end F.O. tank	✓	40	4 1/2 x 3 1/2 BA. 9 x 3 1/2 BA.	30 to 40"	B&S	✓	✓	✓
Raised Quarter Deck Bulkhead	4 1/2 x 4 1/2	40	8 1/2 x 3 BA. 2 1/2 x 2 1/2	24 to 27"	B&S	✓	✓	8' 0" as space 30" B&S 7' 3"
Bridge, After Bulkhead	✓	30	plating 3" 3 1/2 x 4 1/2	34 to 40"	✓	5' 3" x 2' 0"	6"	✓
Bridge, Forward Bulkhead	3 x 3 x 3 1/4	30	"	"	✓	✓	✓	✓
Forecastle Bulkhead	3 x 3 x 3 1/4	30	3 1/2 x 2 1/2 x 3 1/4	30"	B&S top only	✓	✓	8' 0"
Trunk, in way of forecastle	3 x 3 x 3 1/4	40	4 x 3 BA.	32"	B&S	✓	✓	8' 0"
Trunk, forward aft	5 x 5 x 4 1/2	44	8 1/2 x 3 BA.	32"	B&S	✓	✓	8' 0"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	✓	✓	✓	✓	✓	✓	✓	✓
Exposed Machinery Casings on Superstructure Decks	3 x 3 x 3 1/4	30	3 1/2 x 2 1/2 x 3 1/4	30"	✓	4' 9" x 1' 9"	18"	7' 3"
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	No openings.							
Raised Quarter Deck Bulkhead	" " "							
Bridge, After Bulkhead	air space open, one wood door to Capt & officers quarters capable of being manipulated both sides.							
Bridge, Forward Bulkhead	No openings, one wood door P&S " " " " " " " "							
Forecastle Bulkhead	opening 5' x 3' in long B&S P&S fitted with portable plates with hook bolts							
Exposed Machinery Casings on Freeboard or Raised Quarter Decks	openings to fiddle P&S sides fitted with steel hinged half doors capable of being manipulated from both sides. Steel hinged doors fitted entrance of crew quarters P&S.							
Exposed Machinery Casings on Superstructure Decks	fiddle etc							
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	all doors capable of being manipulated from both sides.							
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 shown on the following sketches:—



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

Vessel measured while lying afloat.

Builder's name and yard number Palmers & Co. Ltd. Newcastle.

Names of sister ships "Baroni" "Batatumbo"

Owners Venezuela Gulf Oil Co.

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Received by me



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