

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Index. No. **31059**
(For London Office only.)

H.L.A. No. 6615

Computation of Freeboard for Steamer, Sailing Ship, Tanker.

Having loop, bridge and forecastle

Port of Survey Philadelphia Pa.

Date of Survey June 1st 1933

Name of Surveyor W. J. Smith

Particulars of Classification + 100 ft. with freeboard.

Ship's Name 1/2 "DARIEN"

Nationality and Port of Registry Hawaiian Hawaii

Official Number 4281

Gross Tonnage 1924-4

Date of Build 1924-4

Moulded Dimensions: Length 55.2 Breadth 48.0 Depth 11.75

Moulded displacement at moulded draught = 85 per cent. of moulded depth (~~22.72~~ 9130) tons

Coefficient of fineness for use with Tables .70

Depth for Freeboard (D) Moulded depth ... 11.75

Stringer plate ... (1/2")04

Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) = .21 \times 4066$.09

Depth for Freeboard (D) = 31.88

Depth correction (a) Where D is greater than Table depth (D-Table depth) R = $(31.88 - 23.56) 2.711$ 22.72

(b) Where D is less than Table depth (if allowed) (Table depth-D) R = 22.72

If restricted by superstructures ✓

Round of Beam correction Moulded Breadth (B) 48.0

Standard Round of Beam = $\frac{B \times 12}{50} = 11.52$

Ship's Round of Beam = 6

Difference 5.52" deficient

Restricted to

Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S_1}{L}) = \frac{5.52}{4} \times \frac{4477}{5523} = +.62$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed ...	<u>34.0</u>	<u>34.00</u>	<u>4.75</u>		<u>34.00</u>
" overhang ...					
R.Q.D. enclosed ...					
" overhang ...					
Bridge enclosed...	<u>135.0</u>	<u>135.00</u>	<u>8.0</u>		<u>135.00</u>
" overhang aft ...					
" overhang forward ...					
Fore enclosed ...	<u>40.16</u>	<u>25.69</u>	<u>4.5</u>		<u>25.69</u>
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward ...					
Total ...	<u>209.16</u>	<u>193.37</u>			<u>193.37</u>

Standard Height of Superstructure 7.025

" " R.Q.D. ✓

Deduction for complete superstructure 38.83

Percentage covered $\frac{S}{L} = 59.34\%$

" $\frac{S_1}{L} = 55.23\%$

" $\frac{E}{L} = 55.23\%$

Percentage from Table, Line A. (corrected for absence of forecastle (if required)) 41.23

Percentage from Table, Line B. (corrected for absence of forecastle (if required)) 40.86%

Interpolation for bridge less than 2L (if required)

Deduction = $38.83 \times \frac{41.23}{40.86} = - 40.86$

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<u>45.25</u>	1		<u>45.25</u>	<u>42.0</u>	<u>39.00</u>	1		<u>39.00</u>
1/2 L from A.P. ...	<u>20.13</u>	4		<u>80.52</u>	<u>18.55</u>	<u>18.90</u>	4		<u>75.60</u>
3/4 L " ...	<u>4.98</u>	2		<u>9.96</u>	<u>4.6</u>	<u>4.60</u>	2		<u>9.20</u>
Amidships ...	<u>✓</u>	4		<u>✓</u>	<u>✓</u>	<u>✓</u>	4		<u>✓</u>
3/4 L from F.P. ...	<u>9.96</u>	2		<u>19.92</u>	<u>6.5</u>	<u>6.50</u>	2		<u>13.00</u>
1/2 L " ...	<u>40.26</u>	4		<u>161.04</u>	<u>26.1</u>	<u>26.50</u>	4		<u>106.00</u>
F.P. ...	<u>90.50</u>	1		<u>90.50</u>	<u>60.0</u>	<u>60.00</u>	1		<u>60.00</u>
Total ...	<u>407.25</u>			<u>407.19</u>					<u>301.80</u>

Mean actual sheer aft = Deficient

Mean standard sheer aft = ✓

Mean actual sheer forward = Deficient

Mean standard sheer forward = 65.93 standard

Length of enclosed superstructure forward of amidships = Sheer

" " aft of " = deficient

Sheer forward standard 29.88

Actual 19.50

120.78 79.50

90.50 60.00

159.00 159.00

241.16 159.00 = 63.31% standard

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{106.39}{18} \left(\frac{75 - .2967}{2} \right) = + 2.45$

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.

Ft.

Depth to Freeboard Deck = 31.79

Summer freeboard = 9.42

Moulded draught (d) = 22.37

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 5.59" = 5 1/2"

Addition for Winter North Atlantic Freeboard (if required) ✓

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

= 5 1/2"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

Depth Correction ... 22.72

Deduction for superstructures ... 15.01

Sheer correction ... 2.63

Round of Beam correction62

Correction for Thickness of Deck amidships67

Other corrections, scantlings, etc. ... 46.28

Summer Freeboard = 113.00

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

Tropical Fresh Water Line above Centre of Disc ...	<u>11"</u>	Tropical Fresh Water Freeboard ...	<u>8'-6"</u>
Fresh Water Line " " ...	<u>5 1/2"</u>	Fresh Water " " ...	<u>8'-11 1/2"</u>
Tropical Line " " ...	<u>5 1/2"</u>	Tropical " " ...	<u>8'-11 1/2"</u>
Winter Line below " " ...	<u>5 1/2"</u>	Winter " " ...	<u>9'-10 1/2"</u>
Winter North Atlantic Line " " ...	<u>✓</u>	Winter North Atlantic " " ...	<u>✓</u>

HATCHWAYS ON FREEBOARD ~~AND SUPERSTRUCTURE~~ DECKS

Particulars of fiddley, funnel and ventilator coamings:—

casing on bridge.
billed five soft.

business loan highlight of sheet 18" thick, large sheet flat, secured from below,

Particulars of Flush Bunker Scuttles:—

Particulars of Companionways :—

An emergency fire escape from the master room aft, emerges on to deck. Door 24" x 24", sill 18", steel hinged door 1/8" thick, operable from both sides. (Saw went on top).

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

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

On Fore Deck, 1 @ 9" dia, 24x25 (sawing), 1 @ 4" dia, 20x25, 6 @ 8"x4", 24x25.

On No. 2 Deck, 9 @ 12" dia, 20x25 - 5 @ 9" dia, 20x25 - 5 @ 12"x4, 6" end 20x25, 25 - 1 @ 28" dia, 26x28 -
2 @ 18" dia, 24x28 (two units in mells)

On Port Deck, 4 c 12" dia. 20' x 25' - 1 c 9" dia. 10' x 25' - 1 c 12" x 4", 16' x 25'.
- all must have wood canvas & canvas, with 12" x 6" and 4" x 4", which have large steel flaps.

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

Particulars of Air Pipes in exposed positions on Freeboard, raised 4 feet above water.

Particulars	1 c	2 c	3 c	4 c	5 c	6 c	7 c	8 c	9 c	10 c	11 c	12 c	13 c	14 c	15 c	16 c	17 c	18 c	19 c	20 c	21 c	22 c	23 c	24 c	25 c	26 c	27 c	28 c	29 c	30 c	31 c	32 c	33 c	34 c	35 c	36 c	37 c	38 c	39 c	40 c	41 c	42 c	43 c	44 c	45 c	46 c	47 c	48 c	49 c	50 c	51 c	52 c	53 c	54 c	55 c	56 c	57 c	58 c	59 c	60 c	61 c	62 c	63 c	64 c	65 c	66 c	67 c	68 c	69 c	70 c	71 c	72 c	73 c	74 c	75 c	76 c	77 c	78 c	79 c	80 c	81 c	82 c	83 c	84 c	85 c	86 c	87 c	88 c	89 c	90 c	91 c	92 c	93 c	94 c	95 c	96 c	97 c	98 c	99 c	100 c
ON FR. DECK.	1 c	2 c	3 c	4 c	5 c	6 c	7 c	8 c	9 c	10 c	11 c	12 c	13 c	14 c	15 c	16 c	17 c	18 c	19 c	20 c	21 c	22 c	23 c	24 c	25 c	26 c	27 c	28 c	29 c	30 c	31 c	32 c	33 c	34 c	35 c	36 c	37 c	38 c	39 c	40 c	41 c	42 c	43 c	44 c	45 c	46 c	47 c	48 c	49 c	50 c	51 c	52 c	53 c	54 c	55 c	56 c	57 c	58 c	59 c	60 c	61 c	62 c	63 c	64 c	65 c	66 c	67 c	68 c	69 c	70 c	71 c	72 c	73 c	74 c	75 c	76 c	77 c	78 c	79 c	80 c	81 c	82 c	83 c	84 c	85 c	86 c	87 c	88 c	89 c	90 c	91 c	92 c	93 c	94 c	95 c	96 c	97 c	98 c	99 c	100 c

ON FORD WELL 4' 2" high. wash 10 ft. high

for floor & 16×4 die. $16''$ high - $2 \times 16'' \times 12''$ high - $1 \times 16'' \times 24''$ high - $2 \times 16'' \times 12''$ high - $2 \times 16'' \times 12''$ high

On AER. 1 c 2" dia. 18" high. - 1 c 3" dia. 18" high.

On AFT CELL. 4 c's dia. 10" high.
On Prop sk. 1 c's dia. 8" high.

Particulars of Gangway Cargo and Coaling Ports:—

Five Cargo Doors each side, 6'-6" x 5'-6", 12" sill, stiffened and braced with 16 steel hoops on each door. No strengthening. Doors hinged & bolted.

One looking port each side 20" x 20" 15" sill, stiffened and provided with 4 steel bolts on each side. To show back. Doors hinged.

Particulars of Scuppers and Sanitary Discharge Pipes — The $\frac{1}{2}$ " and the $\frac{3}{4}$ " scupper into the wells; Bridge deck and both wells scupper overboard thro' 3" dia. pipe with brass storm valves in ends. All tailpipes are above the level of the gunboard deck, and all sanitary pipes come from above gunboard deck, and are fitted with brass storm valves at outlets.

Particulars of Side Scuttles:

all fourholes are fitted with c.b. deadlights.

Particulars of Guard Rails :—

Open rails on br. 48" high — 1 rail
 " " " bridge 48" " — 1 "
 " " " roof 48" " — 1 "
 Plate bulwarks on walls — (see sketch), 48" high, 6" pl. rail
 steps about 60" apart.

Particulars of Gangways, Lifelines, etc. :—

Handrails fitted on sides of towers and casings
on bridge deck.

Lifelines arranged if & when required.

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	41.64	48"	50" x 16"	2	6.64	14.5 -
Forward Well	41.64	48"	50" x 16"	3	9.96	14.5 -

State position of each freeing port } After Well: — *centrally spaced* — 12"
 (F. and A. position and height above deck edge) } Forward Well — " — 12"
 State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such: — *Two longitudinal rails* ✓

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	✓	.44 - (Sheathed)		50" - (Sheathed)		66" x 28" (17/18)	18"	4-9	
Raised Quarter Deck Bulkhead ...	✓								
Bridge, After Bulkhead	✓	.56 - (Sheathed)		50" - (Sheathed)		66" x 40" (17/18)	18"	8-0	
Bridge, Forward Bulkhead	✓	.44 - (Sheathed)		28 1/2" - (Sheathed)		66" x 40" (17/18)	18"	8-0	
Forecastle Bulkhead	open								
Trunk, Aft	✓								
Trunk, Forward	✓								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	(Not exposed)								
Exposed Machinery Casings on Super-structure Decks56	.56	5/8" x 1 1/2" x 1/8"	50"	none	60 x 26 (17/18)	14"	6-6	
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).

Particulars of Closing Appliances (State in brief)	
Poop Bulkhead	Two steel hinged doors. To handle a closing movement operable from both sides.

Raised Quarter Deck Bulkhead ... ✓

[illegible]

Bridge, Forward Bulkhead ... *... Two steel lined boxes. (10 days on each). Operable with wind

Forecastle Bulkhead *Open*

Exposed Machinery Casings on Free-board or Raised Quarter Decks ...

Exposed Machinery Casings on Super-structure Decks	One steel hinged door with lock other. Operable from inside.
Machinery Casings within Superstructure	Two steel hinged doors with lock other. Operable from inside.

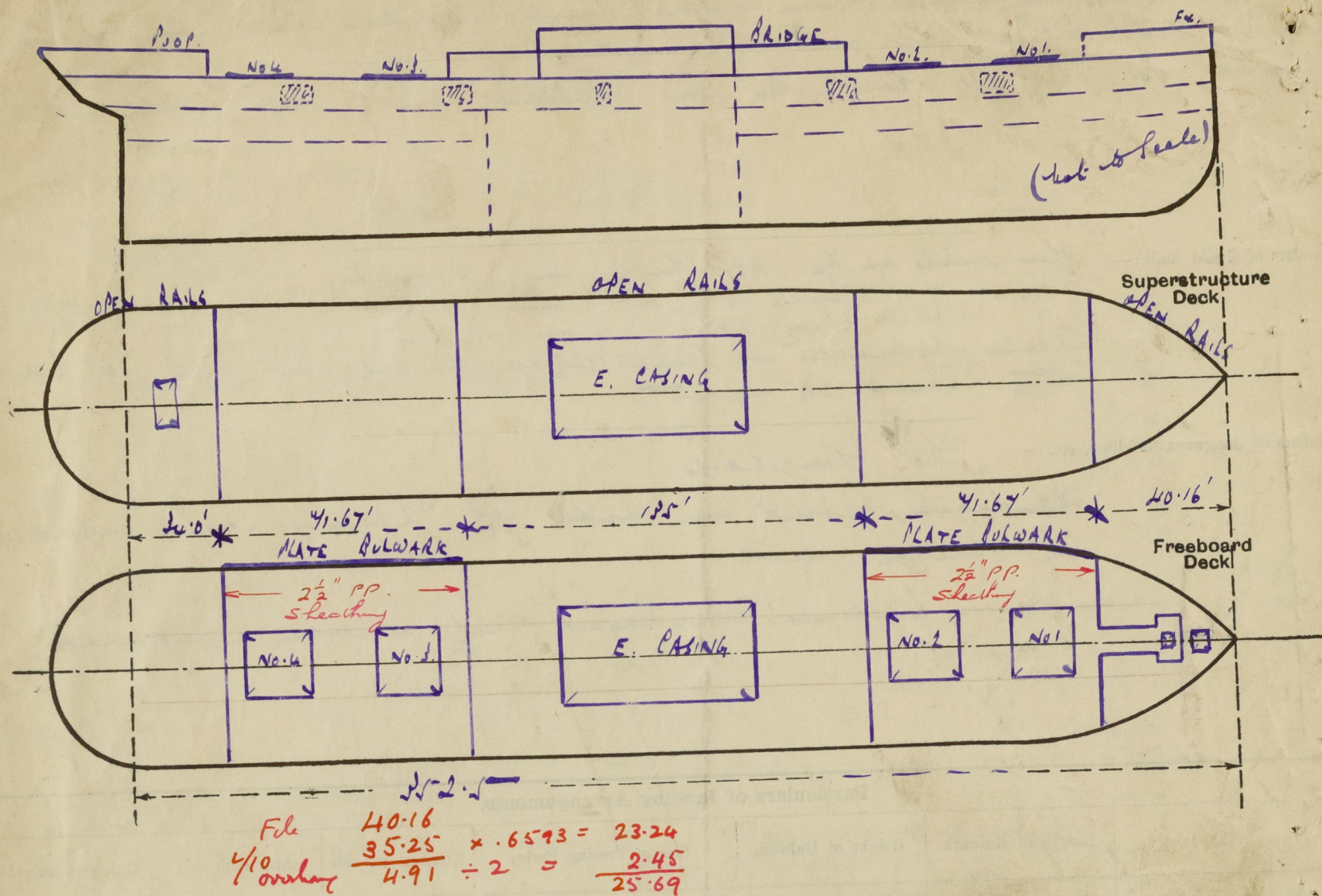
Machinery Casings within Superstructures not fitted with Class I Closing Appliances

Appliances

Deck-houses on Flush Deck Ships

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:—

This vessel was examined while lying at
 pier 9 N. Philadelphia.

No particulars of displacements were
 available. The following figures were received from the
 Master:—

Draft	Load	Tons per Inch.
22'-0"	1150 tons	11.3
21'-0"	2445 "	11.0
20'-0"	2400 "	10.7

The present (Ld.) freeboards are:—
 Summer 9'-4" below upper deck (1" stat.)
 Fresh water 5'-2" above center of disc.
 Indian Summer 4'-2" " "
 Winter 4'-2" below " "
 W.M.S.

Date of certificate April 5th 1922.

Builder's name and yard number Cammell Laird & Co. Ltd. No. 895.

Names of sister ships

Owners

Salmon Shipping Co. Inc. (Mgmt. United Fruit Co.)

Fee

Received by me

\$4.00
5.00
 Shipped at Phila.
 June 28th 1922



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