

15 APR 1932

Index. No. 711624
(For London Office only.)

Rpt. C.11.

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

now named *SPANRAY of London (7/5/31)*

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~
having *Raised Poop, bridge and forecastle.*

Port of Survey *SOUTHAMPTON*

Date of Survey *13th & 14th APRIL 1932.*

Name of Surveyor *G.D. Jyden Toyn*

Particulars of Classification *100 AI*

(Type of Superstructures.)

Ship's Name *Spanray*

Nationality and Port of Registry *BRITISH LONDON*

Official Number *118477*

Gross Tonnage *880*

Date of Build *1904-8 mo.*

Moulded Dimensions: Length *214.37* Breadth *30.6* Depth *16.4* *16.33*

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

Coefficient of fineness for use with Tables *820*

Depth for Freeboard (D)

Moulded depth ... *16.33*

Stringer plate ... *5"*

Sheathing on exposed deck

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

Depth for Freeboard (D) = *16.37*

Depth correction

(a) Where D is greater than Table depth
(D-Table depth) R = $(16.37-14.39) \times 1.649$
= *3.43*

(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) *30.50*

Standard Round of Beam = $\frac{B \times 12}{50} = 7.32$

Ship's Round of Beam = *8"*

Difference *Excess = .68*

Restricted to

Correction = $\frac{\text{Diff}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.68}{4} (1 - .404) = .10$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>AS R.Q.D.</i>	<i>8'-6"</i>	<i>8.50</i>	<i>19"</i>	<i>1.58</i>	<i>3.57</i>
" overhang ...	<i>8.5</i>				
R.Q.D. enclosed					
" overhang ...	<i>53.32</i>				
Bridge enclosed...	<i>53.4</i>	<i>53.33</i>	<i>7'-0"</i>		<i>53.33</i>
" overhang aft ...	<i>7"</i>	<i>.44</i>			<i>.44</i>
" overhang forward	<i>20'-6"</i>	<i>29</i>	<i>7'-0"</i>		<i>.29</i>
Fore enclosed ...	<i>21.5</i>	<i>24.10</i>			<i>24.10</i>
" overhang ...	<i>24.10</i>				
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	<i>87.06</i>	<i>86.66</i>			<i>81.73</i>

Standard Height of Superstructure	<i>6.0</i>
" " R.Q.D.	<i>3.762</i>
Deduction for complete superstructure	<i>27.44</i>
Percentage covered $\frac{S}{L} =$	<i>40.61</i>
" " $\frac{S_1}{L} =$	<i>40.44</i>
" " $\frac{E}{L} =$	<i>38.12</i>
Percentage from Table, Line A. (corrected for absence of forecastle (if required))	
Percentage from Table, Line B. <i>25.90</i> (corrected for absence of forecastle (if required))	
Interpolation for bridge less than 2L (if required)	
Deduction = $27.44 \times .259 =$	<i>-7.11</i>

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product
A.P. ...	<i>31.44</i>	<i>1</i>		<i>31.44</i>	<i>18.50</i>	<i>18.50</i>	<i>1</i>		<i>18.50</i>
$\frac{1}{2}$ L from A.P. ...	<i>13.99</i>	<i>4</i>		<i>55.96</i>	<i>11.45</i>	<i>11.45</i>	<i>4</i>		<i>45.80</i>
$\frac{3}{4}$ L " ...	<i>3.46</i>	<i>2</i>		<i>6.92</i>	<i>2.86</i>	<i>2.86</i>	<i>2</i>		<i>5.72</i>
Amidships ...		<i>4</i>					<i>4</i>		
$\frac{3}{4}$ L from F.P. ...	<i>6.92</i>	<i>2</i>		<i>13.84</i>	<i>9.28</i>	<i>9.12</i>	<i>2</i>		<i>18.24</i>
$\frac{1}{2}$ L " ...	<i>27.98</i>	<i>4</i>		<i>111.92</i>	<i>37.13</i>	<i>36.51</i>	<i>4</i>		<i>146.04</i>
F.P. ...	<i>62.88</i>	<i>1</i>		<i>62.88</i>	<i>76.00</i>	<i>75.11</i>	<i>1</i>		<i>75.11</i>
Total ...				<i>282.96</i>					<i>309.41</i>

Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{26.45}{18} \left(\frac{75-2030}{2030} \right) = -.84$

If limited on account of midship superstructure. $-.84 \times \frac{1.73}{2.00} = -.73$ 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 = *16.37*

Summer freeboard = *1.98*

Moulded draught (d) = *14.39*

Deduction for Tropical freeboard and addition for

Winter freeboard = $\frac{d}{4}$ inches = *3.60* *3.2*

Addition for Winter North Atlantic Freeboard (if required) = *5.2*

Deduction for Fresh Water.

Displacement in salt water at summer load water line

$\Delta = 2140$ tons

Tons per inch immersion at summer load water line

T = *13.75*

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

= *3.90*

4"

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient

1.500

1.36

Depth Correction ...

Deduction for superstructures ...

Sheer correction ...

Round of Beam correction ...

Correction for Thickness of Deck amidships ...

Other corrections, scantlings, etc. ...

25.59

28.22

3.43

7.11

.73

.10

3.43

7.94

- 4.51

Summer Freeboard = *23.71*

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

Tropical Fresh Water Line above Centre of Disc ...	<i>7.2</i>
Fresh Water Line " " ...	<i>4</i>
Tropical Line " " ...	<i>3.2</i>
Winter Line below " " ...	<i>3.2</i>
Winter North Atlantic Line " " ...	<i>5.2</i>

Tropical Fresh Water Freeboard ...	<i>1.11</i>
Fresh Water " " ...	<i>1.44</i>
Tropical " " ...	<i>1.73</i>
Winter " " ...	<i>2.34</i>
Winter North Atlantic " " ...	<i>2.54</i>

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS									
Description of Hatchway		FOR HATCH	AFT HATCH	TO	BUNKER HATCH	BUNKER HATCH	HATCH ON		
Dimensions of Hatchway		FOR HOLD	FOR HOLD	FOR HOLD	BRIDGE DEK	ON CASING	POOP.		
COAMINGS	Height above Deck	3 FT	3 FT	3 FT	9 1/2"	15"	18"		
	Thickness	5/16"	3/8"	3/8"	1/4"	5/16"	5/16"		
	Sides								
	Ends								
	Stiffeners	6" x 2 1/4" S.A.	6" x 2 1/4" S.A.	6" x 2 1/4" S.A.					
Brackets, Stays		1 @ 2 1/2" dia	3 @ 2 1/2" dia	2 @ 2 1/2" dia					
HATCH BEAMS	Number	One	3	3					
	Spacing	Centre	equally	equally					
	Scantling and Sketch	as per sketch	as per sketch	as per sketch					
	Bearing Surface	2 1/2"	2 1/2"	2 1/2"					
FORE AND AFTERS	Number	2	2	2					
	Spacing	equally	equally	equally					
	Unsupported Lengths	7'-0"	6'-4"	6'-4"					
	Scantling and Sketch	Wood	Wood	Wood					
	Bearing Surface	8" x 7"	8" x 7"	8" x 7"					
HATCH COVERS	Material	Wood	Wood	Wood	Wood	Wood	Wood		
	Thickness	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"	2 3/8"		
	How fitted	ath	ath	ath	ath	F & A	ath		
	Bearing Surface	2"	2"	2"	2"	2"	2"		
	Spacing of Cleats	20"	20"	20"	18"	18"	22"		
Number of Tarpaulins		3	3	3	2	2	2		
*Are wood fore and afters steel shod at all bearing surfaces? No - NOT SHOD <i>Yes</i> Are battens and wedges efficient and in good condition? YES Are tarpaulins in good condition and in accordance with rule requirements? YES Are lashings provided in accordance with rule requirements? YES									

Particulars of fiddle, funnel and ventilator coamings:—

Stitchhold gratings covered by strong steel covers. Covers were hinged, side covers portable.
Fiddle and funnel ventilators in efficient condition.
Engine skylights on deck strongly constructed, side vents 2 3/4" thick - on engine casing. Engine casing 4'-0" above bridge.

Particulars of Flush Bunker Scuttles:—

NONE

Particulars of Companionways:—

NONE

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

- 2 Vents in Forehold Wall, fore end, 11" dia, coaming 8'-6" (Stayed) x 1/4" to Fore Hold. *1 Vent aft well, aft end, 18" dia coaming 2'-6" x 3/8" to aft 7'*
- 2 Vents in Forehold Wall 14" dia, coaming 2'-9" x 5/16" to Fore Hold. *Fitted with screwed mushroom canvas cover.*
- 2 Vents in aft well, fore end, 11" dia, coaming 8'-6" (Stayed) x 1/4" to aft Hold. *2 Vents 9" x 6" (Cast iron) on bridge deck 2'-6" high with hinged flap cover secured by screws - to bunkers.*
- 7 Vents on bridge deck 5" dia, 12" coamings 3/16" to accommodation.

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

- 2 air pipes on Forecastle deck 3 1/2" high x 2" dia to Fore Peak
- 4 " " " Fore well deck 3'-3" " x 2" " to D.B Tanks
- 5 " " " Bridge deck 2'-6" " x 2" " " " "
- 4 " " " aft well deck 3'-3" " x 2" " " " "

No plugs or canvas covers.
Air pipes closed by screened caps or wood plugs & canvas covers

Particulars of Gangway Cargo and Coaling Ports:—

NONE



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Particulars of Scuppers and Sanitary Discharge Pipes —

3 deck scuppers in hullwork each side of forward well 4" x 3" ✓
3 " " " " " " aft " 4" x 3" ✓
1 scupper 4" dia cast iron storm valve sanitary discharge from crew space forecath. ✓
2 " 4" dia " " " " " " accommodation amidships (Port side) ✓

Particulars of Side Scuttles:

Side scuttles in crew spaces in forecath and bridge provided with hinged deadlights. ✓

Particulars of Guard Rails:—

Bridge deck 3 tier rail 3ft high, stanchions spaced about 4ft apart. ✓
Forecath deck 3 " " 3ft " , " " " 4ft " . ✓

Particulars of Gangways, Lifelines, etc.:—

Lifelines provided in forward & after wells, port & starboard.

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	61ft to raised Poop.	3'-10"	38" x 18 3/4"	3	14'8 1/4 Sq ft ✓	12.6 f.
Forward Well	65ft	3'-10"	38" x 18 3/4"	3	14'8 1/4 Sq ft ✓	13.00 f.

State position of each freeing port } After Well:— See Sketch. Average height above deck 13" ✓
(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:— one horizontal bar. ✓

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

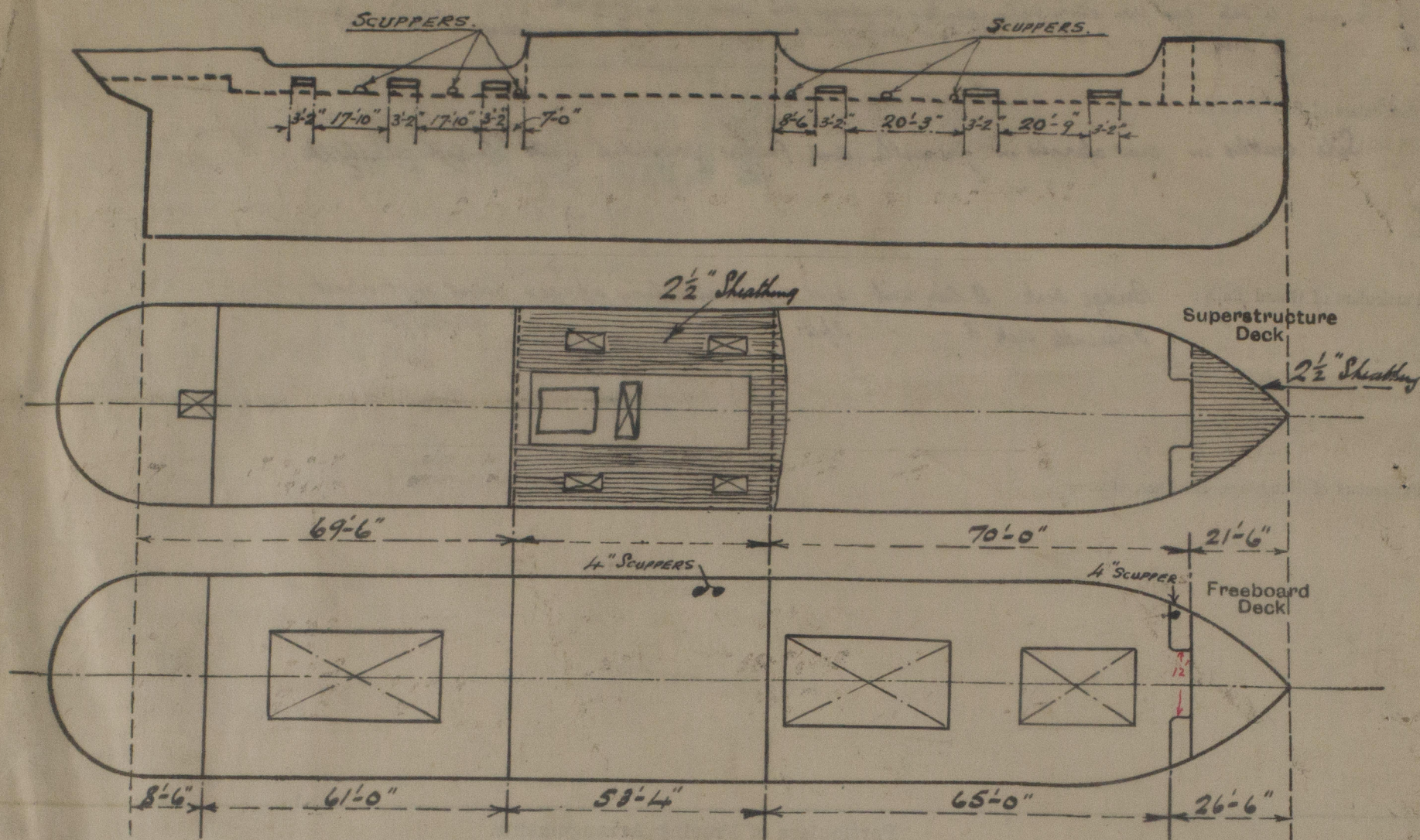
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead								
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	5/16"	1/4"	4" x 3 3/8" a.	24"	no lugs or brackets	2 doors 5' x 2' Port side	16"	7 feet
Bridge, Forward Bulkhead	1/4"	3"	5 1/2" x 3 3/8" a.a.	28"	brackets or lugs	5' x 2' one under	17"	7 feet
Forecath Bulkhead	5/16"	3/16"	4" x 2 1/2" a.	24"	no brackets or lugs	5' x 2'	18"	7 feet
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	5/16"	1/4"	3" x 2" Half round Rib.	24"	no brackets or lugs	no P.S. 2'-6" x 2'	12"	4 feet
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	
Raised Quarter Deck Bulkhead ...	
Bridge, After Bulkhead	2 openings 5' x 2' with steel hinged doors (in hatch) secured by 5 slips operated from forward side ✓
Bridge, Forward Bulkhead	one opening 5' x 2' with steel hinged door (rubber joint) secured by 6 slips operated from aft side.
Forecath Bulkhead	one opening 5' x 2' with steel hinged door operated from both sides. ✓
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	2 openings (P.S.) 2'-6" x 2' steel hinged door slipped (each side) ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	
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:—



Forecastle 12' x 5' x 6'
 Breadth at house 23'
 60 2.40 ✓
 25 56.5 ✓
 240.0 ✓

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

Builder's name and yard number *ACT. GES. "NEPTUN"*

Names of sister ships

Owners *THE UNION CASTLE MAIL S.S. CO LD.*

Fee £ *6 : 16 : 0*

Received by me



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