

# Lloyd's Register of Shipping.

## SURVEYS FOR FREEBOARD.

Nº 31125

371125

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~  
having Pop. Bridge & Forecastle

Port of Survey Sunderland

Date of Survey 19<sup>th</sup> Dec. 1932

Name of Surveyor H. L. Swinton

Particulars of Classification + 100 A1.  
S.S. Sp. No. 3-10.24  
S.S. Reg. No. 1-29

(Type of Superstructures.)

Ship's Name ESSEX JUDGE Nationality and Port of Registry British London Official Number 132070 Gross Tonnage 3688 Date of Build 1912

Moulded Dimensions: Length 246.25 Breadth 50.5 Depth 25.66

Moulded displacement at moulded draught = 85 per cent. of moulded depth 8724 tons

Coefficient of fineness for use with Tables .801

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth ... .. <u>25.66</u>	(a) Where D is greater than Table depth (D - Table depth) R = <u>(25.70 - 23.08) 2.664 = 6.98</u>	Moulded Breadth (B) <u>50.5</u> Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>12.12</u> Ship's Round of Beam = <u>12</u> Difference <u>12</u>
Stringer plate ... .. <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth - D) R =	Restricted to
Sheathing on exposed deck <input checked="" type="checkbox"/>	If restricted by superstructures	Correction = $\frac{\text{Diff}}{4} \times (1 - \frac{S}{L}) =$ <u><math>\frac{12}{4} \times .5412 = +.02</math></u>
$T \left( \frac{L-S}{L} \right) =$		
Depth for Freeboard (D) = <u>25.70</u>		

### DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S <sub>1</sub> )	Height	Height Correction	Effective Length (E)	
Poop enclosed ... ..	<u>27.5</u>	<u>27.50</u>	<u>7.0</u>	-	<u>27.50</u>	Standard Height of Superstructure <u>6.96</u>
" overhang ... ..	<u>.25</u>	<u>.12</u>			<u>.12</u>	" " R.Q.D.
R.Q.D. enclosed ... ..						Deduction for complete superstructure <u>38.42</u>
" overhang ... ..	<u>94.53</u>					Percentage covered $\frac{S}{L} =$ <u>46.52</u>
Bridge enclosed <u>equins.</u>	<u>94.53</u>	<u>94.53</u>	<u>7.0</u>	-	<u>94.53</u>	" " $\frac{S_1}{L} =$ <u>45.88</u>
" overhang aft ... ..	<u>3.35</u>	<u>3.35</u>			<u>3.35</u>	" " $\frac{E}{L} =$ <u>45.88</u>
" overhang forward ... ..	<u>1.00</u>	<u>1.00</u>			<u>1.00</u>	Percentage from Table, Line A. (corrected for absence of forecastle (if required))
Fore enclosed <u>equins.</u>	<u>32.35</u>	<u>32.35</u>	<u>7.0</u>	-	<u>32.35</u>	Percentage from Table, Line B. (corrected for absence of forecastle (if required)) <u>32.49</u>
" overhang <u>equins.</u>	<u>32.35</u>	<u>32.35</u>	<u>7.0</u>	-	<u>32.35</u>	Interpolation for bridge less than 2L (if required)
Trunk aft ... ..						Deduction = <u>- 12.48</u>
" forward ... ..						
Tonnage opening aft ... ..						
" forward ... ..						
Total ... ..	<u>161.10</u>	<u>158.85</u>			<u>158.85</u>	

### SHEER CORRECTION.

Station	Standard Ordinate	S	Product	Actual Ordinate	Effective Ordinate	S	Product	
A.P. ... ..	<u>44.62</u>	1	<u>44.62</u>	<u>54</u>	<u>54.00</u>	1	<u>54.00</u>	Mean actual sheer aft = <u>Even</u>
$\frac{1}{2}$ L from A.P. ... ..	<u>19.86</u>	4	<u>79.44</u>	<u>20.54</u>	<u>20.54</u>	4	<u>82.16</u>	Mean actual sheer forward = <u>Even</u>
$\frac{3}{4}$ L " ... ..	<u>4.91</u>	2	<u>9.82</u>	<u>5.12</u>	<u>5.12</u>	2	<u>10.24</u>	Length of enclosed superstructure forward of amidships = <u>160</u>
Amidships ... ..		4				4		" " aft of " = <u>116</u>
$\frac{3}{4}$ L from F.P. ... ..	<u>9.82</u>	2	<u>19.64</u>	<u>10.44</u>	<u>10.44</u>	2	<u>20.88</u>	
$\frac{1}{2}$ L " ... ..	<u>39.72</u>	4	<u>158.88</u>	<u>41.87</u>	<u>41.87</u>	4	<u>167.48</u>	
F.P. ... ..	<u>89.25</u>	1	<u>89.25</u>	<u>97</u>	<u>97.00</u>	1	<u>97.00</u>	
Total ... ..			<u>401.65</u>				<u>431.76</u>	

Correction =  $\frac{\text{Difference between sums of products}}{18} \left( .75 - \frac{S}{2L} \right) =$   $\frac{30.11}{18} (.75 - .2326) = -.87$

If limited on account of midship superstructure. If limited to maximum allowance of  $1\frac{1}{2}$  ins. per 100 ft.

Deduction for Tropical Freeboard.	Deduction for Fresh Water.	TABULAR FREEBOARD corrected for Flush Deck (if required)
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient <u>8014.68</u> = <u>1481</u>
Depth to Freeboard Deck = <u>25.70</u>	$\Delta =$	<u>1.36</u> + <u>1.36</u>
Summer freeboard = <u>4.50</u>	Tons per inch immersion at summer load water line	Depth Correction ... .. <u>6.98</u>
Moulded draught (d) = <u>21.20</u>	T =	Deduction for superstructures ... .. <u>12.48</u>
Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>5.30 5/4</u>	Deduction = $\frac{\Delta}{40 T}$ inches	Sheer correction ... .. <u>.87</u>
Addition for Winter North Atlantic Freeboard (if required) =		Round of Beam correction ... .. <u>.02</u>
		Correction for Thickness of Deck amidships ... ..
		Other corrections, scantlings, etc. ... ..
		<u>7.00</u> <u>13.35</u> - <u>6.35</u>
		Summer Freeboard = <u>54.03</u>

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

Tropical Fresh Water Line above Centre of Disc ... ..	Tropical Fresh Water Freeboard ... ..
Fresh Water Line " " ... ..	Fresh Water " " ... ..
Tropical Line " " ... ..	Tropical " " ... ..
Winter Line below " " ... ..	Winter " " ... ..
Winter North Atlantic Line " " ... ..	Winter North Atlantic " " ... ..

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1906 freeboards reassigned  
Lloyd's Register  
WS10-0356



Essex Judge

Particulars of fiddley, funnel and ventilator coamings :—

Particulars of Flush Bunker Scuttles:—

None ✓

Particulars of Companionways :—

None.

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

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

Particulars of Gangway Cargo and Coaling Ports :—

Gone.

### Particulars of Scuppers and Sanitary Discharge Pipes :—

Stringer from fruct. dk. in wells led this stringer bar above dk. -  
 Stringer from bridge space led this stringer side below fruct. dk. and plug at dk.  
 Stringer discharges from W. to etc. led this stringer side above fruct. dk. with  
 shown valves.

Particulars of Side Scuttles :—

In forecastle 8" dia. fitted with hinged deadlights.  
In prop. 10" no deadlights.

all of substantial construction.

Particulars of Guard Rails :—

On file etc. 5:0 high. 2 rods. Stanchions 5:0 apart.  
On prop. 5:2 2  
Steel bulwark on wells 4:0 high & on bridge 5:3 high strongly constructed  
& efficiently supported.

Particulars of Gangways, Lifelines, etc. :—

~~None.~~

Provision made for rigging lifelines in the wells  
for the use of the crew in the regular working  
of the ship.

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 ... ..	101'-10 1/2"	4'-0"	5'-8" x 1'-6"	5.	25 sq. ft.	20.57 sq. ft.
* Forward Well ... ..	80'-6"	4'-0"	5'-8" x 1'-6"	4	20 sq. ft.	16.11 sq. ft.

State position of each freeing port ... .. } After Well:— 9'-0", 50'-0", 47'-0", 46'-6", 92'-6" from Bulkhead and 14'-0" from P. and A. position and height above deck edge } Forward Well:— 9'-0", 25'-6", 19'-0", 65'-6". } 14'-0" from Bulkhead.

\* State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:— No shutters fitted. Openings protected by heavy single bar.

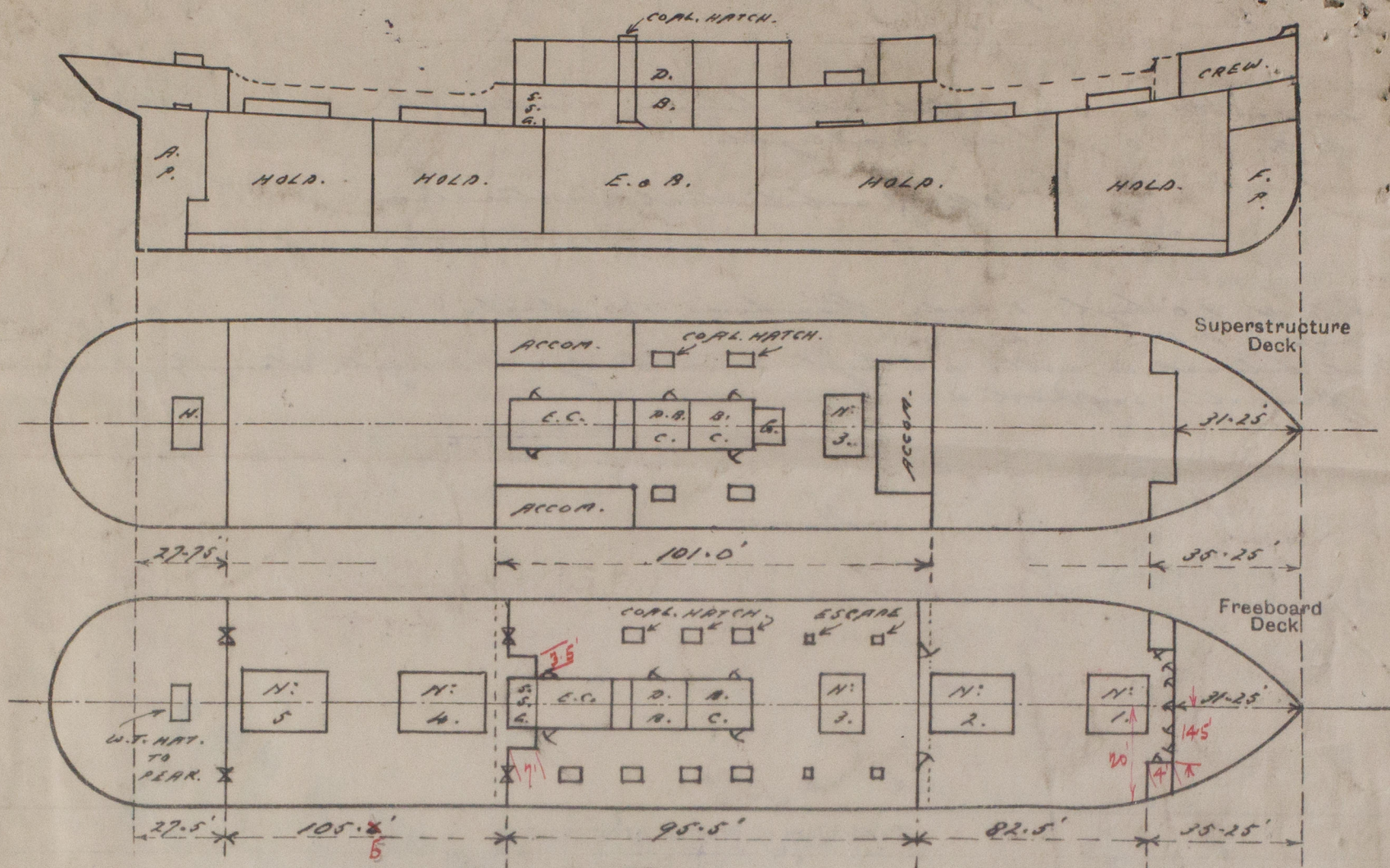
Particulars of Superstructures, Trunks, Casings, Deckhouses.								
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
Poop Bulkhead ... ..	29" x 44"	40	8" x 32" x 44"	42"	Both at top	4' 3" x 2' 0"	18"	
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead ... ..	Deck	32	5" x 32" x 44"	36	Both at top	4' 6" x 2' 0"	18"	
Bridge, Forward Bulkhead ... ..	32" x 36	40	8" x 32" x 44" B.A.	36	Both T.O.B.	2' 7" x 2' 5"	36"	
Forecastle Bulkhead ... ..	29" x 30	30	5" x 32" x 40	36	Both at top	4' 6" x 2' 0"	18"	
Trunk, Aft ... ..								
Trunk, Forward ... ..								
Exposed Machinery Casings on Free-board or Raised Quarter Deck	40" x 32	32	5" x 32" x 44"	36	Both at top	None		
Exposed Machinery Casings on Super-structure Deck ... ..	22" x 40	36	5" x 32" x 34"	45"	None	4' 6" x 2' 0"	18"	7' 3"
Machinery Casings within Superstructures not fitted with Class I Closing Appliances ... ..	42" x 40	36	5" x 32" x 40	48	None	4' 6" x 2' 0" 4' 9" x 3' 0"	18" 18"	
Deckhouses on Flush Deck Ships ...								

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

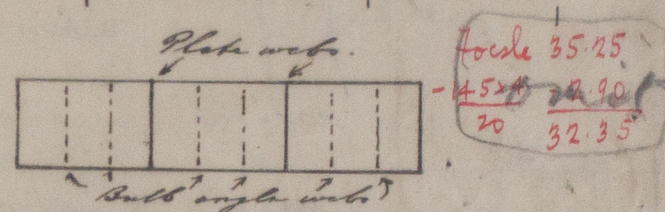
Poop Bulkhead	...	...	2 openings closed with steel plate secured by hook bolts 18" apart.
Raised Quarter Deck Bulkhead	...	...	2 openings closed with steel plate secured by hook bolts 16" apart.
Bridge, After Bulkhead	...	...	2 hinged steel doors secured by clips on outside frames 21" apart.
Bridge, Forward Bulkhead	...	...	6 steel & 1 wood door hinged, manipulated both sides.
Forecastle Bulkhead	...	...	No openings
Exposed Machinery Casings on Free-board or Raised Quarter Decks	...	...	5 steel hinged doors. Closing appl. not satisfactory.
Exposed Machinery Casings on Superstructure Decks	...	...	4 steel hinged doors. do do do.
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	...	...	1 " " " up to 4 ft. - secured by clips 21" apart.
Decks 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 shewn on the following sketches:—



Br. 95.5  
 $\frac{7 \times 3.5}{25.25} = .97$   
 $95.5 - .97 = 94.53$   
 $0.8 \text{ aft } 3.5 + .97 = 4.47$



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

Typical Arrangement of hatch webs.

Vessel surveyed afloat & confined to an examination of the means of closing the openings in the sides & decks of the vessel.

Particulars of displacements received from Builders:

External disp. at 20'0" extreme draught	7950 tons.	Length in ft	35.16.
" " 21'0"	8372 "	"	35.16.
" " 22'0"	8794 "	"	35.16.

Builder's name and yard number Short Bros. Ltd.  
 Names of sister ships ✓  
 Owners Essex Transport & Trading Co. Ltd. (Meldrum & Swinson Mgrs.)  
 Fee £ 11 : 18 : 0. Received by me \_\_\_\_\_