

3 MAY 1932

Rpt. C.11.

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker					Port of Survey <u>Newcastle-on-Tyne</u>
having <u>Poop, Bridge & Forecastle.</u>					Date of Survey <u>22nd April 1932</u>
(Type of Superstructures.)					Name of Surveyor <u>Alex. E. Stevenson.</u>
Ship's Name CRACKSHOT	Nationality and Port of Registry British Newcastle	Official Number 148052	Gross Tonnage 2379	Date of Build 1924	Particulars of Classification <u>+100 A.1.</u>
Moulded Dimensions: Length <u>230.0</u> Breadth <u>43.04</u> Depth <u>22.5</u>					
Moulded displacement at moulded draught = 85 per cent. of moulded depth <u>5325</u> tons					
Coefficient of fineness for use with Tables <u>.782</u>					

Depth for Freeboard (D)	Depth correction	Round of Beam correction
Moulded depth <u>22.50</u>	(a) Where D is greater than Table depth (D-Table depth) R = <u>(22.54 - 19.30) 2.226 = +7.21</u> ✓	Moulded Breadth (B) <u>43.04</u>
Stringer plate <u>.04</u>	(b) Where D is less than Table depth (if allowed) (Table depth-D) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ <u>10.33</u>
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$	If restricted by superstructures	Ship's Round of Beam = <u>10.5</u> ✓
Depth for Freeboard (D) = <u>22.54</u>		Difference <u>Even</u> <u>.17</u>
		Restricted to
		Correction = $\frac{\text{Diff}^o}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.17}{4} \left(1 - \frac{34.68}{43.04} \right) = - .03$

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed <u>& House</u> ...	<u>23.23</u>	<u>23.23</u>	<u>7.7</u>		<u>23.23</u>	Standard Height of Superstructure <u>6.394</u>
... overhang ...						" " R.Q.D. <u>✓</u>
R.Q.D. enclosed ...						Deduction for complete superstructure <u>34.63</u>
" overhang ...						Percentage covered $\frac{S}{L} =$ <u>35.52</u>
Bridge enclosed... .. <u>49.5</u>	<u>49.50</u>	<u>49.50</u>	<u>7.5</u>		<u>49.50</u>	" " $\frac{S_1}{L} =$ <u>34.68</u>
" overhang aft ...						" " $\frac{E}{L} =$ <u>34.68</u>
" overhang forward	<u>4.83</u>	<u>2.41</u>			<u>2.41</u>	Percentage from Table, Line A. <u>18.97</u>
F'cle enclosed <u>21.73</u>	<u>21.73</u>	<u>21.73</u>	<u>7.5</u>		<u>21.73</u>	(corrected for absence of forecastle (if required))
" overhang <u>see sketch</u>	<u>3.52</u>	<u>3.52</u>			<u>3.52</u>	Percentage from Table, Line B. <u>22.97</u>
Trunk aft						(corrected for absence of forecastle (if required))
" forward						Interpolation for bridge less than 2L (if required) <u>18.97 + (4 × $\frac{.179}{200}$) = 22.55%</u>
Tonnage opening aft ...						Deduction = <u>34.63 × 22.55 = -7.81</u> ✓
" " forward						
Total	<u>102.81</u>	<u>100.39</u>			<u>100.39</u>	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	Mean actual sheer aft = <u>Even</u>	Mean standard sheer aft
A.P.	<u>38.94</u>	1		<u>38.94</u>	<u>54</u>	<u>54.00</u>	1		<u>54.00</u>		
$\frac{1}{2}$ L from A.P. ...	<u>17.33</u>	4		<u>69.32</u>	<u>19.2</u>	<u>20.25</u>	4		<u>81.00</u>	Mean actual sheer forward = <u>Even</u>	Mean standard sheer forward
$\frac{2}{3}$ L "	<u>4.28</u>	2		<u>8.56</u>	<u>2.2</u>	<u>2.50</u>	2		<u>5.00</u>		
Amidships		4					4			Length of enclosed superstructure forward of amidships = <u>.089</u>	
$\frac{2}{3}$ L from F.P. ...	<u>8.56</u>	2		<u>17.12</u>	<u>11</u>	<u>13.25</u>	2		<u>26.50</u>	" " aft of " = <u>.082</u>	
$\frac{1}{2}$ L "	<u>34.66</u>	4		<u>138.64</u>	<u>42</u>	<u>43.00</u>	4		<u>172.00</u>		
F.P.	<u>77.88</u>	1		<u>77.88</u>	<u>99</u>	<u>99.00</u>	1		<u>99.00</u>		
Total				<u>350.46</u>					<u>437.50</u>		

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{87.04}{18} \left(.75 - \frac{.1776}{1} \right) = 2.77$

If limited on account of midship superstructure. $2.77 \times \frac{.171}{.200} = 2.37$ 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 Fresh Deck (if required)	<u>40.87</u>
Addition for Winter and Winter North Atlantic Freeboard.	Displacement in salt water at summer load water line	Correction for coefficient $\frac{.782 + .68}{1.36} = \frac{1.462}{1.36}$	<u>43.93</u>
Depth to Freeboard Deck = <u>22.54</u>	$\Delta =$ <u>5371</u>	Depth Correction <u>7.21</u>	
Summer freeboard = <u>3.42</u>	Tons per inch immersion at summer load water line	Deduction for superstructures <u>7.81</u>	
Moulded draught (d) = <u>19.12</u>	T = <u>24.68</u>	Sheer correction <u>2.37</u>	
Deduction for Tropical freeboard and addition for	Deduction = $\frac{\Delta}{40T}$ inches = <u>5.44</u> <u>5 1/2</u>	Round of Beam correction <u>.03</u>	
Winter freeboard = $\frac{d}{4}$ inches = <u>4.78</u> <u>4 3/4</u>		Correction for Thickness of Deck amidships	
Addition for Winter North Atlantic Freeboard (if required) = <u>2</u>		Other corrections, scantlings, etc.	
		7.21 10.21 - 3.00	
		Summer Freeboard = <u>40.93</u>	

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

Tropical Fresh Water Line above Centre of Disc	<u>10 1/4</u>	Tropical Fresh Water Freeboard	<u>3.5</u>
Fresh Water Line " "	<u>5 1/2</u>	Fresh Water " "	<u>2 - 6 3/4</u>
Tropical Line " "	<u>4 3/4</u>	Tropical " "	<u>2 - 11 1/2</u>
Winter Line below " "	<u>4 3/4</u>	Winter " "	<u>3 - 0 1/4</u>
Winter North Atlantic Line " "	<u>6 3/4</u>	Winter North Atlantic " "	<u>3 - 9 3/4</u>

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PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway	N ^o 1.	N ^o 2.	Bunker Hatches.	N ^o 3.	N ^o 4.	Escape hatches on hatch trunk	Store hatch on upper deck in fore.	Bunker Hatches on upper deck in bridge.	Bunker Hatch on casing top	Hatch on Poop
Dimensions of Hatchway	31-6 x 30-0 23-4 1/2	30-0 x 30-0	9-6 x 30-0	32-9 x 30-0	32-3 x 30-0 23-0	2 off 3-10 x 1-10	2-0 x 2-6	2 off 6-6 x 3-0	4-6 x 13-9	2-6 x 2-0
COAMINGS	{	Height above Deck	48"	48"	48"	48"	48"	coaming	12"	9"	9"	9"
		Thickness { Sides	50"	50"	50"	50"	50"	6" x 3" L.	30"	9" x 3 1/2" BA	9" x 3 1/2" BA	34"
		Thickness { Ends	44"	44"	44"	44"	44"		30"			34"
		Stiffeners	9" x 3 1/2" BA	9" x 3 1/2" BA	9" x 3 1/2" BA	8" x 3" BA	8" x 3" BA					
Brackets, Stays		3 off 2" dia.	3 off 2" dia.	-	3 off 2" dia.	3 off 2" dia.						
HATCH BEAMS	{	Number	5	5	1	6	7					
		Spacing	5-3"	5-0"	4-9"	4-10"	4-9 1/2"					
		Scantling and Sketch	25 1/2" x 40" plate	as	as	as	as					
			6" x 3 1/2" x 52"	N ^o 1.	N ^o 1.	N ^o 1.	N ^o 1.					
Bearing Surface		3 1/2"										
FORE AND AFTERS	{	Number										
		Spacing										
		Unsupported Lengths										
		Scantling* and Sketch										
Bearing Surface												
HATCH COVERS	{	Material	w.p.	w.p.	w.p.	w.p.	w.p.	Steel cover	w.p.	w.p.	w.p.	w.p.
		Thickness	3"	3"	3"	3"	3"	secured by	3"	2 1/2"	2 1/2"	2 1/2"
		How fitted	f & a.	f & a.	f & a.	f & a.	f & a.	6 butterfly	Trans.	Trans.	f & a.	Trans.
		Bearing Surface	3" x 6"	3" x 6"	3" x 6"	3" x 6"	3" x 6"	nuts.	2"	2 1/2"	2 1/2"	2"
Spacing of Cleats		24"	24"	24"	24"	24"		16"	25"	24"	17"	
Number of Tarpaulins		Two	Two	Two	Two	Two		Two	Two	Two	Two	
*Are wood fore and afters steel shod at all bearing surfaces? <input checked="" type="checkbox"/>												
Are battens and wedges efficient and in good condition? <input checked="" type="checkbox"/> yes.												
Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/> yes.												
Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/> yes.												

Particulars of fiddley, funnel and ventilator coamings:—

Stokehold gratings covered by strong steel hinged covers.
 Funnel and fiddley ventilators in efficient condition.
 Engine skylight of steel strongly constructed.

Particulars of Flush Bunker Scuttles:—

Two, on bridge deck. 18" dia opening, of cast iron substantially constructed, with bayonet joints.

Particulars of Companionways:—

One steel companion 5-0 x 3-6 x 6-4 high on poop deck, leading to enclosed poop, strong hinged wood doors with 15" sill above wood deck. Doors operated from both sides.

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

on fore deck 1 vent. 14" dia. coaming 39" x 38" led to hold.
 Forward well 3 " 14" " 36" x 38" " " "
 aft well 1 " 15" " 36" x 38" " " "
 1 " 15" " 8-0" x 38" " " "
 Poop deck 1 " 9" " 36" x 34" " " "
 4 " 6" " 27" x 33" x 34" " " "
 2 C.I. goosenecks 6" " 6" to opening " " "
 2 stove pipe coamings 6" dia. x 15" x 30" led to poop space.

Ventilators constructed in accordance with rule requirements.
 Coamings closed with wood plugs & canvas covers.

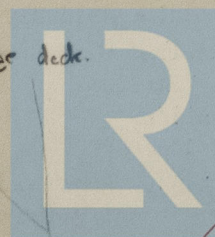
Particulars of Air Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:—

Fore deck 1 C.I. gooseneck 3" dia x 3" to opening from fore peak.
 fore well 1 " 3" x 32" " double bottom tanks
 2 " 3" x 18" " " "
 aft " 2 " 3" x 30" " " "
 Bridge deck 4 " 3" x 3" " " "
 Poop deck 1 " 3" x 4" " aft peak.

air pipes have no closing appliances wood plugs provided

Particulars of Gangway Cargo and Coaling Ports:—

ash shoot on port side.
 ← casing side.
 Bridge deck.
 opening in casing side 12" above bridge deck.
 ash shoot to ship's side.



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Particulars of Scuppers and Sanitary Discharge Pipes —

W.C. discharge P+S. from poop through poop side: ✓

Scupper P+S. in upper deck from Bridge space discharging below upper deck through ships side.

values m.c.l. ✓

Particulars of Side Scuttles:

Sidelights in poop space fitted with hinged deadlights. ✓

Particulars of Guard Rails:—

In upper deck Steel Bulwarks 3'-9" high in fore & aft wells, & 3'-0" high on bridge deck, efficiently constructed & supported.

Guard rails on poop & forecastle deck 3'-0" high, having 2 rods & stanchions spaced 5'-0" apart. ✓

Particulars of Gangways, Lifelines, etc.:—

Provision for Lifelines as provided over the hatchways in both wells
none!

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	96'-9"	3'-9"	4'-0" x 1'-9" ○	3	19.11 19.0	19.3 ✓
Forward Well	88'-9" 88.35'	3'-9"	4'-0" x 1'-9" ○	3	19.0	17.6 ✓

State position of each freeing port } After Well:— 11'-6", 47'-0" & 80'-6" from Bridge aft bld. 14" above deck. ✓
 P. and A. position and height above deck edge) } Forward Well:— 12'-6", 42'-6" & 72'-0" from Bridge fore overhang. 15" above deck. ✓

State whether the freeing ports are fitted with shutters, bars, or rails, and give particulars of such:—

Freeing ports fitted with 3 vertical rods, 12" apart. ✓

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	-	38 ✓	6 x 3 x 380A not accessible.	36"	None	none	-	7'-6"
Raised Quarter Deck Bulkhead ...								
Bridge, After Bulkhead	-	30 ✓	5 1/2" x 3" x 44A ✓	33" ✓	—	4'-0" x 3'-0" (2 off) ✓	18" ✓	7'-6" ✓
Bridge, Forward Bulkhead	-	42 ✓	8 1/2" x 3 1/2" x 44BA ✓	30" ✓	Plates at top. ✓	none	-	7'-6"
Forecastle Bulkhead	-	28 ✓	3" x 3" x 30 ✓	36" ✓	— sides centre	4'-11" x 1'-8" (2 off) ✓ 4'-0" x 3'-0" (2 off) ✓	18" ✓ 18" ✓	7'-6" ✓
Trunk, Aft								
Trunk, Forward								
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...								
Exposed Machinery Casings on Superstructure Decks	-	32 ✓	3 x 2 1/2" x 34L & 6" flange alloy ✓	27" ✓	ER. brackets at top BR. plates at top ft. only.	5'-0" x 2'-0" (4 off) ✓	18" ✓	7'-3" ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	-	32 ✓	do. do.	27" ✓		none ✓	-	7'-6" ✓
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	weather boards 3" thick. in full height riveted channels. (2 off) ✓
Bridge, Forward Bulkhead	✓ no openings
Forecastle Bulkhead	at sides. Hinged steel doors, operated from both sides 2 off. ✓ at centre. 3" weather boards, in full height riveted channels 2 off. ✓
Exposed Machinery Casings on Free-board or Raised Quarter Decks ...	
Exposed Machinery Casings on Superstructure Decks	Hinged steel doors, operated from both sides 2 off. ✓
Machinery Casings within Superstructures not fitted with Class I Closing Appliances	✓
Deckhouses on Flush Deck Ships ...	✓



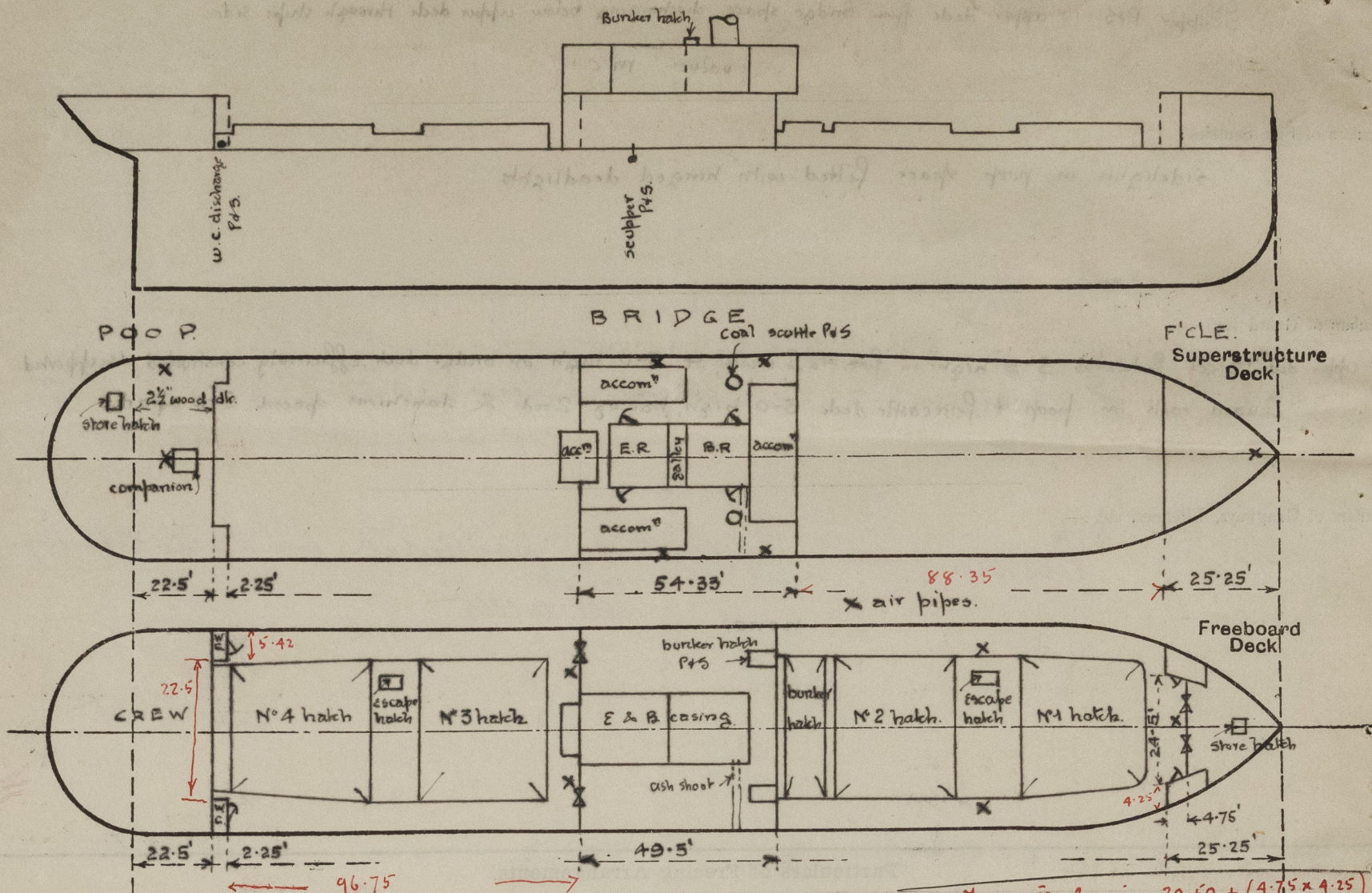
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Crackpot

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:—



$$\begin{aligned} \text{Forecastle length} &= 20.50 + \left(\frac{4.75 \times 4.25}{16.45} \right) = 21.73 \\ \text{Overhang} &= 25.25 - 21.73 = 3.52 \\ \text{Poop length} &= 22.5 + \left(\frac{2.25 \times 5.42}{16.67} \right) = 23.85 \end{aligned}$$

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

Timber assignment required.

- Rule 86 Vessel has forecastle over 7% L. & poop. ✓
- 87 Machinery casings on freeboard deck protected by superstructure. ✓
- 88 Double bottom tanks have no longitudinal subdivision. ✓
- 89 Bulwarks on freeboard deck in wells 3'-9" high, with 5½" x 3" B.A. rail bar, stays 6" bulwark plate 6'-0" apart fore well, 5'-6" aft well. ✓
- 90 Steering rods are fitted between bulwark stays & ship's side. ✓
- 91 No eye plates for lashings, nor sockets for uprights are fitted. ✓

Vessel surveyed afloat.

Builder's name and yard number Smith's Dock Co. Ltd. South Bank-on-Tees.

Names of sister ships

Owners Witherington Everett.

Fee £ 10 : 4 : 0

Received by me

[Signature]



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