

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.
(COMPUTATION FOR STEAMER, SAILING SHIP, TANKER.)

Ship's Name Swan, Hunter and Wigham Richardson NO 1656 and 1658	Official Number	Nationality and Port of Registry	Gross Tonnage	Date of Build	Port of Survey Wokingham
Moulded Dimensions: Length 462.5' Breadth 59.00' Depth 34.00'				Date of Survey 16.1.41	Surveyor's Signature
Moulded displacement at moulded draught = 85 per cent. of moulded depth 17697 (ex gross, stern) tons				Particulars of Classification	
Coefficient of fineness for use with Tables .785					

Depth for Freeboard (D).	Depth correction.	Round of Beam correction.
Moulded depth 34'00	(a) Where D is greater than Table depth	Moulded Breadth (B) 59'00
Stringer plate06	(D - Table depth) R =	Standard Round of Beam = $\frac{B \times 12}{50} =$ 14'16"
Sheathing on exposed deck	(34'06 - 30'83) = + 9'69"	Ship's Round of Beam = 14'75"
T $\left(\frac{L-S}{L} \right) =$ ✓	3'23	Difference Excess 59" ✓
Depth for Freeboard (D) = 34'06 ✓	(b) Where D is less than Table depth (if allowed)	Restricted to
	(Table depth - D) R = ✓	Correction = $\frac{\text{Diff}^\circ}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{59 \times 5812}{4} = - .09"$
	If restricted by superstructures ✓	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)
Poop enclosed <i>Equi</i>	113.67	113.67	7.5'	✓	113.67
" overhang ...					
R.Q.D. enclosed					
" overhang					
Bridge enclosed <i>Equi</i>	37.35	37.35	7.5'	✓	37.35
" overhang aft ...	8.50	6.37			6.37
" overhang forward	.65	.33			.33
File enclosed ...	35.50	35.50	7.5'	✓	35.50
" overhang ...					
Trunk aft ...					
" forward ...					
Tonnage opening aft ...					
" forward					
Total ...	195.67	193.22			193.22

Standard Height of Superstructure 7.50' ✓

" " R.Q.D. 42.00" ✓

Deduction for complete superstructure

Percentage covered $\frac{S}{L} = 42.31$ ✓

" " $\frac{S_1}{L} = 41.78$ ✓

" " $\frac{E}{L} = 41.78$ ✓

Percentage from Table, Line *A Tanker* 32.78 ✓
(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 = $42.00 \times 32.78 = -13.77$ ✓

SHEER CORRECTION.

Station	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P. ...	56.15	1	56.15	56.00	56.00	1	56.00
$\frac{1}{8}$ L from A.P. ...	15.03	4	100.12	15.06	15.06	4	100.24
$\frac{2}{8}$ L " ...	6.19	2	12.38	4.44	4.44	2	8.88
Amidships ...	—	4	—	—	—	4	—
$\frac{2}{8}$ L from F.P. ...	12.38	2	24.76	12.50	12.50	2	25.00
$\frac{1}{8}$ L " ...	50.06	4	200.24	50.25	50.25	4	201.00
F.P. ...	112.50	1	112.50	112.00	112.00	1	112.00
Total ...			506.15				503.12

Correction = $\frac{\text{Difference between sums of products}}{18} \left(.75 - \frac{S}{2L} \right) = \frac{3.13}{18} (.75 - \frac{2115}{5385}) = +.09''$ ✓

If limited on account of midship superstructure.

Mean actual sheer aft = $> 75\%$ of standard
Mean standard sheer aft

Mean actual sheer forward = Excess.
Mean standard sheer forward

Length of enclosed superstructure forward of amidships = } Deficient
L aft of " = } Sheer.

If limited to maximum allowance of $1\frac{1}{2}$ ins. per 100 ft. ✓

<p>Deduction for Tropical Freeboard.</p> <p>Addition for Winter and Winter North Atlantic Freeboard.</p> <p>Depth to Freeboard Deck = <u>34.06</u> Ft.</p> <p>Summer freeboard = <u>6.69</u></p> <p>Moulded draught (d) = <u>27.37</u></p> <p>Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = <u>6.84 = 6 ³/₄</u></p> <p>Addition for Winter North Atlantic Freeboard (if required) = <u>6.84 + 4.62 = 11.46 = 11 ¹/₂</u></p>	<p>Deduction for Fresh Water.</p> <p>Displacement in salt water at summer load water line</p> <p>$\Delta = 16,775$</p> <p>Tons per inch immersion at summer load water line</p> <p>T = <u>56.15</u></p> <p>Deduction = $\frac{\Delta}{40 T}$ inches</p> <p>= <u>7.47</u></p> <p>= <u>7 ¹/₂</u></p>	<p>TABULAR FREEBOARD corrected for Flush Deck (if required)</p> <p>Correction for coefficient $\frac{785 + 62}{1.36}$ $\frac{1.465}{1.36}$</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;">+</th> <th style="text-align: center;">-</th> </tr> </thead> <tbody> <tr> <td>Depth Correction</td> <td style="text-align: center;">9.69</td> <td></td> </tr> <tr> <td>Deduction for superstructures</td> <td style="text-align: center;">-</td> <td style="text-align: center;">13.77</td> </tr> <tr> <td>Sheer correction</td> <td style="text-align: center;">.09</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Round of Beam correction</td> <td style="text-align: center;">-</td> <td style="text-align: center;">.09</td> </tr> <tr> <td>Correction for Thickness of Deck amidships</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td>Other corrections, scantlings, etc.</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> <tr> <td></td> <td style="text-align: center;">9.78</td> <td style="text-align: center;">13.86</td> </tr> <tr> <td></td> <td colspan="2" style="text-align: right;">- 4.08</td> </tr> <tr> <td></td> <td colspan="2" style="text-align: right;">Summer Freeboard = 80.29</td> </tr> </tbody> </table>		+	-	Depth Correction	9.69		Deduction for superstructures	-	13.77	Sheer correction09	-	Round of Beam correction	-	.09	Correction for Thickness of Deck amidships	-	-	Other corrections, scantlings, etc.	-	-		9.78	13.86		- 4.08			Summer Freeboard = 80.29	
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SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, ~~Wood~~^{10"}, Steel, Deck:

Tropical Fresh Water Line above Centre of Disc	...	14 1/4"
Fresh Water Line	" "	7 1/2"
Tropical Line	" "	6 3/4"
Winter Line below	" "	6 3/4"
Winter North Atlantic Line	" "	11 1/2"

Tropical Fresh Water Freeboard	
Fresh Water	"
Tropical	"
Winter	"
Winter North Atlantic	"

A new form should be prepared if any alterations that affect the freeboard have been made. If no such alterations have been made, the Surveyor should endorse the form on this side with his signature and the date.

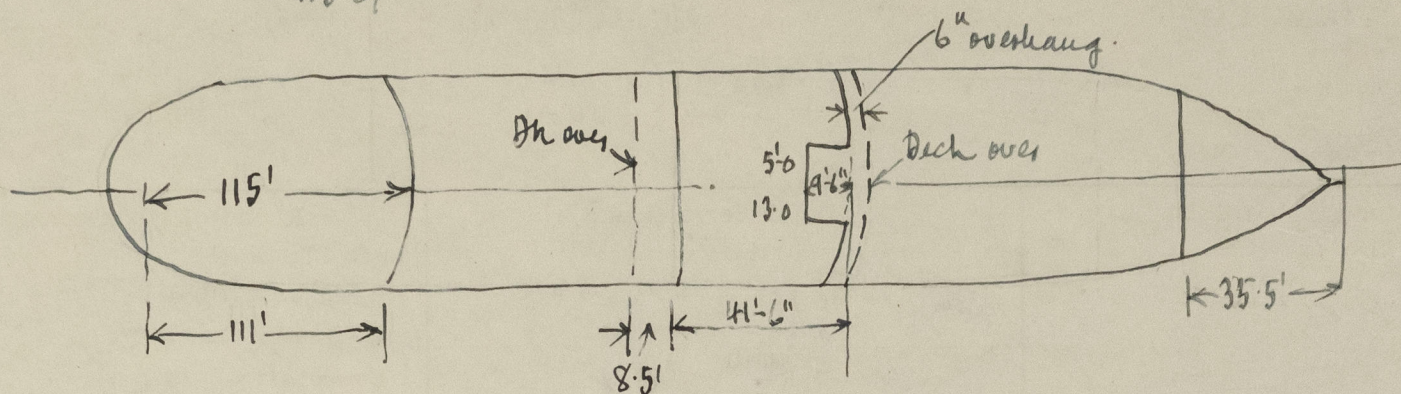
Poop Equivalent Bulkhead

Length at centre = 115.0

" " Side = $\frac{111.0}{4}$

Equiv $111.0' + 4 \times \frac{2}{3}$

= 113.67'



Bridge equivalent.

Area between curved front and straight line

$$= 59.5' \times \frac{4'}{3} = 79.34 \text{ ft}^2$$

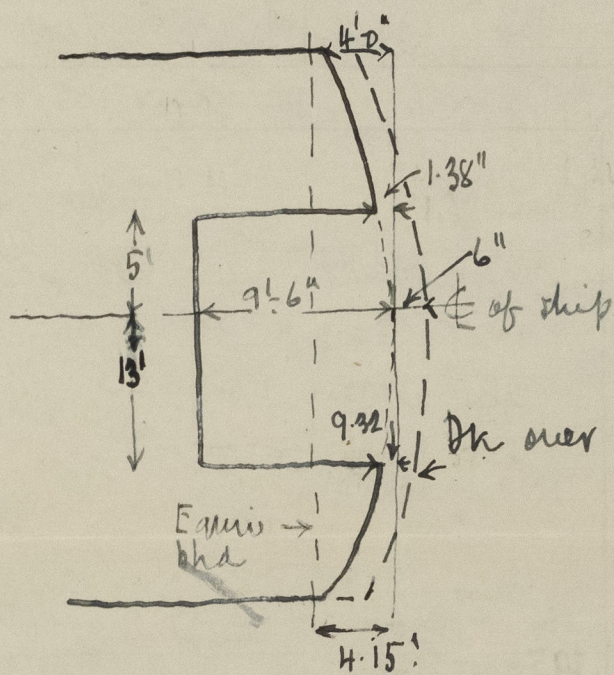
Port recess area

$$= 5' \times (9'6'' - \frac{1}{3} 1.38'') = 47.30 \text{ ft}^2$$

Starboard recess area

$$= 13' \times (9'6'' - \frac{1}{3} 9.32'') = 120.12 \text{ ft}^2$$

246.76



$$\text{Equivalent bulkhead aft of straight line} = \frac{246.76}{59.5} = 4.15'$$

$$\text{Equivalent enclosed length} = \frac{41.5}{-4.15} = 37.35$$

$$\text{Forward overhang} = 15' + .5 = 15.5'$$

$$\text{Aft overhang} = 8.5'$$

Trade of ship

Names of sister ships

Builder's name and yard number

Owners

Fee £



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