

Lloyd's Register of Shipping.
SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker having <u>Shelter Deck with Forecastle</u> <u>stowage opening</u> (Type of Superstructures.)				Port of Survey <u>Newcastle on Tyne</u>	
Ship's Name <u>PORT CHALMERS</u>		Nationality and Port of Registry <u>British London</u>	Official Number <u>163429</u>	Gross Tonnage <u>8534.56</u>	Date of Build <u>1933</u>
Moulded Dimensions: Length <u>486.5'</u>		Breadth <u>65.0'</u>	Depth <u>35.25' to Pbl. dx.</u>	Date of Survey <u>13 November 1933</u>	
Moulded displacement at moulded draught = 85 per cent. of moulded depth		<u>19416</u> tons		Name of Surveyor <u>H. J. A. Kester</u>	
Coefficient of fineness for use with Tables <u>71.7</u>		<u>4 boring</u>		Particulars of Classification <u>+ 100 A1 with fld. Class Contemplated</u>	
Depth for Freeboard (D)		Depth correction		Round of Beam correction	
Moulded depth ... <u>35.25'</u>		(a) Where D is greater than Table depth (D - Table depth) R = $(35.29 - 32.43) 3$ = <u>+ 8.58"</u> ✓		Moulded Breadth (B) <u>65.0</u>	
Stringer plate ... <u>.50" amidships</u> .04		(b) Where D is less than Table depth (if allowed) (Table depth - D) R =		Standard Round of Beam = $\frac{B \times 12}{50} = 15.60"$	
Sheathing on exposed deck $T \left(\frac{L-S}{L} \right) =$ ✓		If restricted by superstructures ✓		Ship's Round of Beam = <u>16.25"</u>	
Depth for Freeboard (D) = <u>35.29</u>				Difference <u>.65" excess</u>	
				Restricted to	
				Correction = $\frac{\text{Diff}^{\circ}}{4} \times \left(1 - \frac{S_1}{L} \right) = \frac{.65}{4} \times .0056 = \text{NIL}$	

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S ₁)	Height	Height Correction	Effective Length (E)	
Poop enclosed ...	112.3	112.30	8.6		112.30	Standard Height of Superstructure <u>7'-6"</u>
" overhang ...			+ .25" SL			" " R.Q.D. ✓
R.Q.D. enclosed ...						Deduction for complete superstructure <u>42.00"</u>
File " overhang ...						Percentage covered $\frac{S}{L} = 100\%$ ✓
Bridge enclosed ...	368.7	368.70	8.6		368.70	" " $\frac{S_1}{L} = 99.44\%$ ✓
" overhang aft ...			+ .25" SL			" " $\frac{E}{L} = 99.44\%$ ✓
" overhang forward						Percentage from Table, Line A. (corrected for absence of forecastle (if required)) <u>99.31%</u>
F'de enclosed ...						Percentage from Table, Line B. (corrected for absence of forecastle (if required))
" overhang ...						Interpolation for bridge less than 2L (if required)
Trunk aft ...						Deduction = $42 \times .9931 = -41.71"$
" forward ...						
Tonnage opening aft ...	5.5	2.75	8.6		2.75	
" " forward			+ .25" SL			
Total ...	486.50	483.75			483.75	

SHEER CORRECTION.

Station	Standard Ordinate	S	M	Product	Actual Ordinate	Effective Ordinate	S	M	Product	
A.P. ...	58.65	1		58.65	56.05	54.2	1		54.2	Mean actual sheer aft = Excess
$\frac{1}{2}$ L from A.P. ...	26.10	4		104.40	24.8	24.05	4		96.20	Mean standard sheer aft = Excess
$\frac{2}{3}$ L " ...	6.45	2		12.90	6.0	6.1	2		12.20	Mean actual sheer forward = Excess
Amidships ...	✓	4		✓	-	-	4		✓	Mean standard sheer forward
$\frac{2}{3}$ L from F.P. ...	12.90	2		25.80	12.85	12.95	2		25.90	Length of enclosed superstructure forward of amidships =
$\frac{1}{2}$ L " ...	52.20	4		208.80	51.0	49.1	4		196.40	" " aft of " =
F.P. ...	117.30	1		117.30	108.6	108.4	1		108.4	C.S.S.
Total ...				527.85					585.54	
Correction = $\frac{\text{Difference between sums of products}}{18} \left(\frac{75-S}{2L} \right) = \frac{57.69}{18} \left(\frac{75-.50}{2} \right) = -1.80"$										
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.
Addition for Winter and Winter North Atlantic Freeboard.

Depth to Freeboard Deck = 35.29 Ft.
Summer freeboard = 5.58
Moulded draught (d) = 29.71

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 7.43 = 7.6
Addition for Winter North Atlantic Freeboard (if required) = ✓

Deduction for Fresh Water.

Displacement in salt water at summer load water line
 $\Delta = 7398.2$ tons
Tons per inch immersion at summer load water line
T = 63.5

Deduction = $\frac{\Delta}{40T}$ inches
= 7.63

$\frac{d}{4} = 7.2$

TABULAR FREEBOARD corrected for Flush Deck (if required)

Correction for coefficient $\frac{717 + .68}{1.36} = \frac{1397}{1360}$

	+	-
Depth Correction ...	8.58	-
Deduction for superstructures ...	-	41.71
Sheer correction ...	-	.80
Round of Beam correction ...	-	-
Correction for Thickness of Deck amidships ...	-	-
Other corrections, scantlings, etc. ...	-	-
	8.58	42.51

Summer Freeboard = 66.98

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

Tropical Fresh Water Line above Centre of Disc ...	15.74	Tropical Fresh Water Freeboard ...	4'-2.54"
Fresh Water Line " " ...	7.5	Fresh Water " " ...	4'-11.54"
Tropical Line " " ...	7.2	Tropical " " ...	4'-11.2"
Winter Line below " " ...	7.2	Winter " " ...	6'-2.2"
Winter North Atlantic Line " " ...	✓	Winter North Atlantic " " ...	✓

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS										See also attached Sheet			
Description of Hatchway			No 1 Hatch for		No 2		No 3		No 4		No 5		
Dimensions of Hatchway			27' x 20'		30'-3" x 20'		27'-6" x 20'		30'-3" x 20'		27'-6" x 20'		
			Shell, SK. Fbd. SK.		S. SK. Fbd. SK.		S. SK. Fbd. SK.		S. SK. Fbd. SK.		S. SK. Fbd. SK.		
COAMINGS	{	Height above Deck	33	5	33	5	33	5	33	5	33	5	
		Thickness { Sides	.44	9x3x.44	.44	9x3x.44	.44	9x3x.44	.44	9x3x.44	.44	9x3x.44	
		{ Ends											
		Stiffeners ...	5	7x3x.40		7x3x.40		7x3x.40		7x3x.40		7x3x.40	
		Brackets, Stays	Two in length	2" dia.		2 @ 2" dia		2 @ 2" dia		2 @ 2" dia		2 @ 2" dia	
HATCH BEAMS	{	Number ...	4	4	5	5	4	4	5	5	4	4	
		Spacing ...	5'-5"	5'-4 1/2"	5'-0 1/2"	5'-6"	5'-0 1/2"	5'-6"	5'-0 1/2"	5'-6"	5'-0 1/2"		
		Scantling and Sketch	19x38	2 @ 19 1/2 x 36	18x36	18x44	15x34	19 1/2 x 40	13x34	13x34	As No 3	2 @ 19 1/2 x 37	
			LS 4x3x.44	LS 4x3x.44	LS 4x3x.44	7x3 1/2 x 64	LS 4x3x.44	4x3x.40	LS 4x3x.44	As No 2	LS 4x3x.44		
		Bearing Surface	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	3 1/2	
FORE AND AFTERS	{	Number ...											
		Spacing ...											
		Unsupported Lengths											
		Scantling* and Sketch											
		Bearing Surface											
HATCH COVERS	{	Material	W. P.		As		As		As		As		
		Thickness	3"		No 1		No 1		No 1		No 1		
		How fitted	As										
		Bearing Surface	2 1/2"		Bearing surface		not less than 2 1/2"						
Spacing of Cleats			6" at ends & 24"		cleats		6" off ends		24" apart		Two		
Number of Tarpaulins			Two at each		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"/>													
Are tarpaulins in good condition and in accordance with rule requirements? <input checked="" type="checkbox"/>													
Are lashings provided in accordance with rule requirements? <input checked="" type="checkbox"/>													

Particulars of fiddley, funnel and ventilator coamings :—

Fidley, Fuel Ventilators in efficient Condition ✓
Engine & Galley Skylights of Steel Strongly Constructed. ✓

Particulars of Flush Bunker Scuttles:—

none ✓

[illegible]

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

in exposed positions on freeboard and superstructure decks:				36" Coaming
2 @ 20" dia.	on	File to lower	tween decks	✓
4 @ 20" "	"	Shell to fore	" "	✓
2 @ 20" "	"	"	amidships	✓
8 @ 20" "	"	"	aft to lower	✓
1 @ 15" "	"	fore to upper	tween decks	✓
6 @ 9" "	"	"	" "	✓
2 @ 10" }	"	"	amidships	✓
2 @ 12" }	"	"	" "	
2 @ 15" }	"	aft	" "	
2 @ 20" }	"	"	" "	

Ventilators Closed
with wood plugs
or Canvas Covers.

[illegible]

Pipes in exposed positions on freeboard, raised quarter, or superstructure decks:			
1 @ 4"	dia on F. cle	to Fore peak bulk	24" high
2 @ 3 1/2"	" "	double bottom	22" "
4 @ 3 1/2"	" Shells "	" No 2 "	24" "
2 @ 2"	" "	" Cofferdam "	24" "
8 @ 3"	" "	" No 35 3A "	22-24" "
2 @ 3"	" "	" Cofferdam at end of tween	O.F. bunker 24" high
6 @ 3"	" "	" Ex. No 152 dph. tanks	24" high
2 @ 3 1/2" & 2 @ 2"	" "	" Cofferdam "	24" high
4 @ 4 1/2" & 4 @ 3"	" "	" tween stn. O.F. bunker	24" "

1 @ 4" dia on Shellter sk. to O.F. Settling tank 24" high
 1 @ 3" " " to No. 4 & 5 d.b.s. 24" "
 1 @ 3" " " to O.F. bunkers at sides of tunnels 24" "
 1 @ 3" " " " Started to ladder tank 24" high
 1 @ 4" " " " Port to After tank. 24" "
 24" high

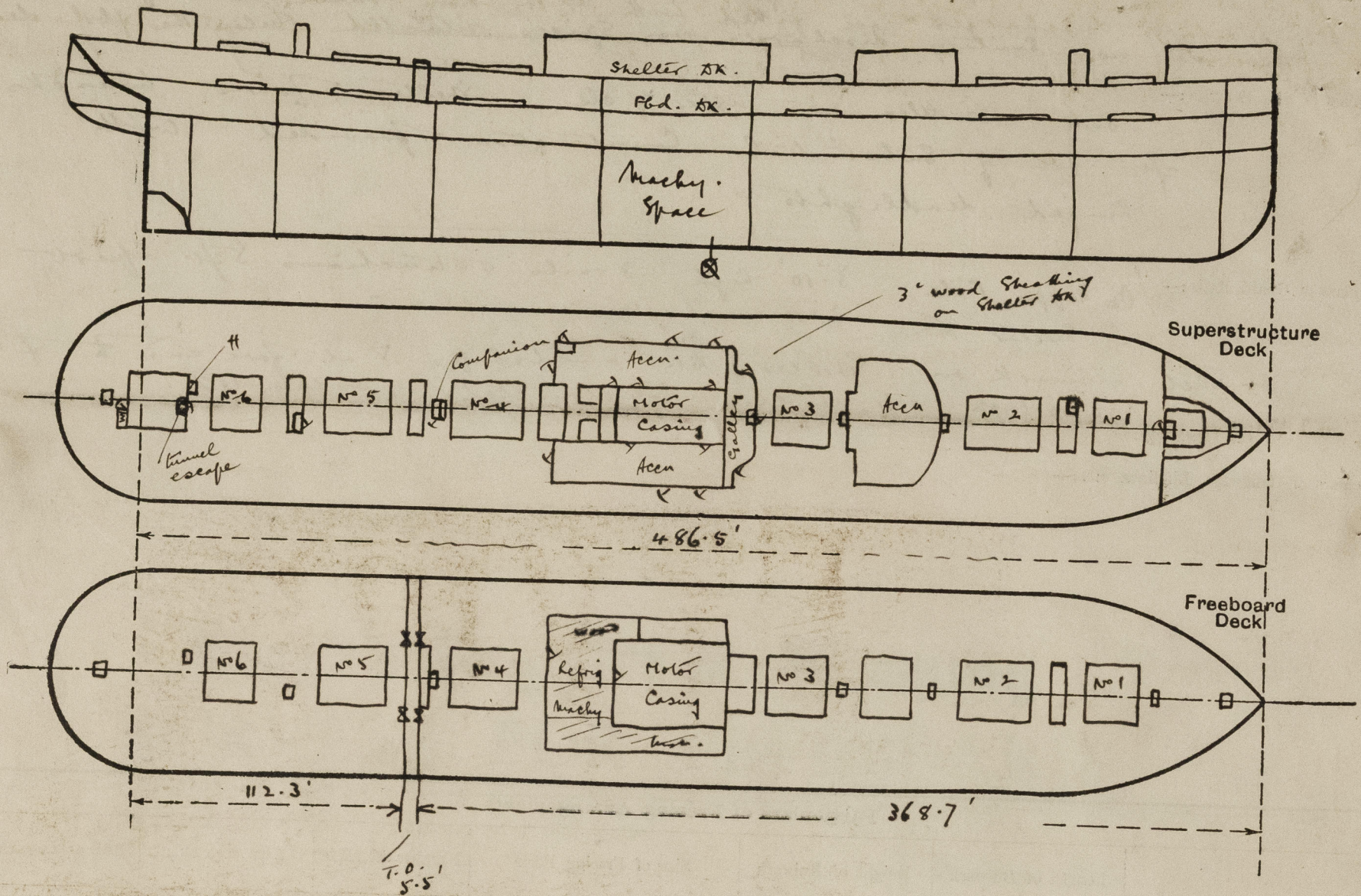
Orange fitted to air pipes from
 O.F. spaces; plugs will be provided
 for others.

Particulars of Gangway Cargo and Coaling Ports:—

W.T. heat doors $26\frac{1}{2}'' \times 24''$ I & S. in No 1, 2, 3, 4 & 5 Lower two ends.
fitted 4 ft above 3rd Sk. Cast steel doors & frames of strong construction
each with two heavy cast steel strong backs.

Port Chalmers

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:—



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

Holds & lower bulkheads are arranged for refrigerated Cargoes.

Builder's name and yard number Swan Hunter & Wigham Richardson Ltd. No 1483

Names of sister ships Somewhat Similar to same Builders Port-Finity

Owners Commonwealth & Dominion Line Ltd.

Fee £ 19 Received by me [Signature]

To change with first entry



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Port Chalmers Swan Hunter No 1483.
 PARTICULARS OF PROTECTION TO OPENINGS, ETC.

15 NOV 1933

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HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS												
Description of Hatchway			No 6		Lounge opening on S. Deck		Shell Sk. Fl. Sk. Ladder Hatch		Shell Sk. Fl. Sk. To Store for		To Store aft	
Dimensions of Hatchway			22' x 20'		5'-6" x 20'		3@3'x2'-9" 1@3'x2'-9"		3'-0" x 3'-0"		4'-0" x 4'-0"	
COAMINGS	{	Height above Deck	33"	5'	5'	24"	5'	24"	5'	24"	9x3x.44	5'
		Thickness { Sides	44	9x3x.44	9 above	44	9x3x.44	x	9x3x.44	x	44	✓
		Ends	7x3x.44	✓	wood deck	44	✓	35	✓	44	✓	
		Stiffeners	2@2" dia	✓								
HATCH BEAMS	{	Number	3	5'-6"	✓	✓	✓	✓	✓	✓	✓	✓
		Spacing	No 3	19 1/2" x 37"	✓	✓	✓	✓	✓	✓	✓	✓
		Scantling and Sketch	LS 4x3x.44	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Bearing Surface	3 1/2	3 1/2	✓	✓	✓	✓	✓	✓	✓	✓
FORE AND AFTERS	{	Number	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Spacing	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Unsupported Lengths	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
		Scantling* and Sketch	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
HATCH COVERS	{	Material	W.P.	W.P.	W.P.	W.P.	W.P.	Steel	W.P.	W.P.	W.P.	W.P.
		Thickness	3"	3"	3"	3"	3"	Cover with	3"	3"	3"	3"
		How fitted	F & A	F & A	Trans	F & A	Trans.	toggles	F & A	F & A	F & A	F & A
		Bearing Surface	2 1/2 x 4	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Spacing of Cleats			6" x 24"		none efficient		cleats		spaced 6" x 22"		22" apart	
Number of Tarpaulins			Two		Two		Two		Two		Two	
					closing appliances provided		Tarpaulins to each hatch					
*Are wood fore and afters steel shod at all bearing surfaces? Yes												
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												

Machinery Casings within Superstructures not fitted with Class I Closing Appliances

motor casing
only "

.50

5x22x.40

33

none

5'9" x 2'2"

9

8.6

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