Rpt. C.11.

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No 8788

Index. No. 20348
(For London Office only.)

Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

-6 JUL 1932

Computation of Freeboard for Steamer, ~~Sailing Ship, Tanker~~

having Topgallant, Forecastle, Short bridge converted to Raised Quarter Deck
(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build
GOWRIE	British Dundee	129243	689	1909-9

Moulded Dimensions: Length 177.7.5 Breadth 29.87 8 Depth 14.5'
Moulded displacement at moulded draught = 85 per cent. of moulded depth 1281 tons
Coefficient of fineness for use with Tables .685

Port of Survey Dundee

Date of Survey May. June. July

Name of Surveyor W. M. Copeman

RETAIN

Particulars of Classification +100 A1
SS. Dun. No. 3-7.22
SS Dun. No. 2-30

Depth for Freeboard (D)

Moulded depth	14.5'
Stringer plate .40"	.033
Sheathing on exposed deck $T\left(\frac{L-S}{L}\right)$ = 13'6" amr stow in R.Q.D.	
Depth for Freeboard (D) =	14.53

Depth correction

(a) Where D is greater than Table depth
(D—Table depth) R = 2.68
(14.53 - 11.85) 1.367 = 3.66

(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)	29.87 8'
Standard Round of Beam = $\frac{B \times 12}{50}$ =	7.18"
Ship's Round of Beam =	7.5"
Difference	.33
Restricted to	.33/4 x .3338
Correction = $\frac{\text{Diff}^{e}}{4} \times \left(1-\frac{S_1}{L}\right)$ =	-.03

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S_1)	Height	Height Correction	Effective Length (E)
~~Poop enclosed ...~~					
~~„ overhang ...~~					
R.Q.D. enclosed ...	83.5'	83.50	3.5'	3.5/3.517	83.10
~~„ overhang ...~~					
Bridge enclosed... ...	12.0'	12.00	7.0'		12.00
~~„ overhang aft ...~~					
~~„ overhang forward~~					
F'cle enclosed	~~21.84~~ Eqvn 20.5	21.84	6.75'		21.84
„ overhang	~~3.5~~ 2.16	1.08	6.75'		1.08
~~Trunk afs ... ...~~					
~~„ forward ... ...~~					
~~Tonnage opening aft ...~~					
~~„ „ forward~~					
Total	119.50	118.42			118.02

Standard Height of Superstructure 6
„ „ R.Q.D. 3.517
Deduction for complete superstructure 23.77

Percentage covered $\frac{S}{L}$ = 67.22
„ „ $\frac{S_1}{L}$ = 66.62
„ „ $\frac{E}{L}$ = 66.40

Percentage from Table, Line A. 56.88
(~~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 = 23.77 x .5688 = 13.52

SHEER CORRECTION.

Station (L Prim ... L Prim)	Standard Ordinate	S M	Product	Actual Ordinate	Effective Ordinate	S M	Product
A.P.	27.75"	1	27.77	42"	42	1	42.00
1/6 L from A.P. ...	12.35"	4	49.44	19.55"	19.55	4	78.20
2/6 L „ ...	3.05"	2	6.10	4.89"	4.89	2	9.78
Amidships ...	0 "	4		0 "		4	
2/6 L from F.P. ...	6.10"	2	12.20	6.40"	6.42	2	12.84
1/6 L „ ...	24.72"	4	98.88	25.67"	25.67	4	102.68
F.P.	55.55"	1	55.54	60.0"	60.00	1	60.00
Total ...			24993				305.50

Mean actual sheer aft / Mean standard sheer aft = Excess

Mean actual sheer forward / Mean standard sheer forward = Excess

Length of enclosed superstructure / L forward of amidships = 663/1775 = .0373
„ „ aft of „ = allow 1/1373

Correction = $\frac{\text{Difference between sums of products}}{18}\left(.75-\frac{S}{2L}\right)$ = 55.57/18 (.75 - .3361) -1.278

If limited on account of midship superstructure. 1373/2000 x 1.278 = -.88

If limited to maximum allowance of 1½ ins. per 100 ft.

Deduction for Tropical Freeboard.

Addition for Winter and Winter North Atlantic Freeboard.

	Ft.	
Depth to Freeboard Deck	=	14.53
Summer freeboard	=	.73
Moulded draught (d)	=	13.80

Deduction for Tropical freeboard and addition for Winter freeboard = $\frac{d}{4}$ inches = 3.45 3½

Addition for Winter North Atlantic Freeboard (if required) = 2

Deduction for Fresh Water.

Displacement in salt water at summer load water line
Δ = 1484

Tons per inch immersion at summer load water line
T = 10.25

Deduction = $\frac{\Delta}{40\,T}$ inches
= 3.62
3½

TABULAR FREEBOARD corrected for Flush Deck (if required)

19.46
19.53

Correction for coefficient $\frac{685+68}{136}$ 1.365

	+	−
Depth Correction	3.66	—
Deduction for superstructures	—	13.52
Sheer correction	—	.88
Round of Beam correction	—	.03
Correction for Thickness of Deck amidships ...	—	—
Other corrections, ~~seantlings~~	—	—
	3.66	14.43

10.77
8.76
Summer Freeboard

8.76
8.7.32

SUMMER FREEBOARD amidships from Centre of Disc to top of Deck Line, [redacted] Steel, Deck :—

Tropical Fresh Water Line above Centre of Disc		... 7 ...	Tropical Fresh Water Freeboard	0 - 8¾
Fresh Water Line	„	„ ... 3½ ...	Fresh Water „	0 - 1¾
Tropical Line	„	„ ... 3½ ...	Tropical „	0 - 5¼
Winter Line	below	„ ... 3½ ...	Winter „	0 - 5¼
Winter North Atlantic Line	„	„ ... 5½ ...	Winter North Atlantic „	1 - 0¼
				1 - 2¼

-9 JUL 1932

5m,3,32.

W440-0353 '13

MARKING FORM RECEIVED -8 SEP 1933

MARKING FORM RECEIVED SEP 1934

MARKING FORM RECEIVED 3 OCT 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS

Description of Hatchway		(FORWARD. WELL DECK			(R.Q. DECK)
Dimensions of Hatchway		No 1. 11'0"×11'0"	No 2. 22'3"×13'0"	No 3. 6'6"×4'10" P&S.	No 4. 17'0"×13'0"
COAMINGS	Height above Deck	30"	30"	30"	30"
	Thickness — Sides	·35	·45	·45	·45
	Thickness — Ends	·35	·45	·40	·40
	Stiffeners HORIZONTAL	6×3×·438A	6×3×·438A	6×3×·438A	6×3½×·408A
	Brackets, Stays	15×10×·37 3 each side	15×10×·37 3 each side	18×18×·50 Two each side	COAMING SIDES CONTINUED FROM DK HOUSE TO CASINGS
HATCH BEAMS	Number	One Web	Two Webs	Two Webs	Two Webs
	Spacing	5'6"	7'5"		6'0". 6'2". 4'10".
	Scantling and Sketch	30"×·37 centre 24" sides 2½×2½×·30 T&B	30"×·37 centre 24" sides 2½×2½×·30 T&B		30"×·37 centre 24" sides 2½×2½×·30 T&B.
	Bearing Surface	3"	2¾"		3 or 3" & 1 at 2½"
FORE AND AFTERS	Number	6 Total	9 Total		9 Total
	Spacing	2'9"	7'6" 0"		3'3"
	Unsupported Lengths	5'0"			5'9"
	Scantling* and Sketch	C.R. 6"×7" sides 6"×5"	C.R. 6×7 sides 6"×5"		6×7 sides 6×5
	Bearing Surface	3"			3"
HATCH COVERS	Material	White Pine	White Pine		White Pine
	Thickness	3"	3"		3"
	How fitted	Thwartships	Thwartships		Thwartships
	Bearing Surface	1½"	1½"		2½"
Spacing of Cleats		24" & 6" at ends	24" & 6" ends		24" & 6" ends
Number of Tarpaulins		Two	Two		Two

·45 PLATE 6×3×·408A

*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

Particulars of fiddley, funnel and ventilator coamings:— Engine skylights of wood with bulls eyes on top of casing 6'9" high strongly constructed.
Galley skylight on top of casing constructed of wood with bulls eyes
Ventilator on top of casings to aft hold. E.R. & Stokehold in good condition
Galley grating on boiler casing protected by hinged steel covers strongly constructed
Bunker hatch on casing top 9'9"×4'0"; Hatch covers 3" W.P. 3" ledges & battening arrangements

Particulars of Flush Bunker Scuttles:—

none

Particulars of Companionways:—

One small hatch leading from W.C. space inside Engineers House casing leading to store underneath: Size 36"×18"×10" coaming. no covers fitted. Protection afforded by teak wood door leading to W.C (Hatch shown "H" on sketch)

Particulars of Ventilators in exposed positions on freeboard and superstructure decks:— closed with steel plates, bolted.

On forecastle deck Two 6" mats to cover quarters cut flush with deck & fitted ~~with wood plugs~~
One 12" dia × 36" coaming ×·37 ventilator to fore hold.
On fore well deck two samson posts 18'0" high×14" dia ×·60 thick secured to bridge front leading to deck tank
On machinery casing one mat 12" dia × 30" high ×·37 leading to after hold fwd end
On engineers deck house one 12" dia × 20" high ×·40 to after hold aft end & one mat 9" dia × 18" high ×·30 leading to tunnel

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

Forecastle deck one 2" diameter 14' high ·25" to fore peak tank: Two 2" dia 2½" high to no 1 tank P. 3½
Forward well deck two 2" diameter 4' high secured to bulwark rail leading to no 2 Tank Forward end
Bridge Deck two 3" diameter 14" high leading to no2 tank after end
RQD. Two 2" diameter inside machinery casings leading to no 3 tank
One 1" diameter 3'3" high secured to bulwark rail leading to no aft peak

Particulars of Gangway Cargo and Coaling Ports:—

Four steel hinged doors in bulwarks of Fid Well, hinged at bottom & secured in position by slip bolts & portable stanchions, all efficiently framed & stiffened (Sills 8" above main deck

One coaling door on each P. & S. side of machinery casing 2'0"×2'0"; 3' above main deck fitted with steel door secured by substantial clips

Gourie

-3 OCT 1932

PARTICULARS OF PROTECTION TO OPENINGS, ETC.

W440-0353 2/3

HATCHWAYS ON FREEBOARD AND SUPERSTRUCTURE DECKS (FORWARD WELL DECK) (R.Q. DECK)

Description of Hatchway				No 1		No 2	No 3	No 4
Dimensions of Hatchway				11'0" x 11'0"		22'3" x 13'0"	6'6" x 4'10" P & S.	14'0" x 13'0"
COAMINGS	Height above Deck			no alterations have been carried out & the scantlings are as per Dundee Report no 8788				
	Thickness	Sides						
		Ends						
	Stiffeners							
	Brackets, Stays							
HATCH BEAMS	Number			One Web		Three Webs	no alteration carried out on this hatch	Two Webs
	Spacing			5'6"		5'6" & 5'7½"		5'8"
	Scantling and Sketch			Plate 11" x ·30" Angles Top 3x3x·40 Do Bottom 6x4x·44 T.Bar		Plate 12½" x ·32 Angles Top 3x3x·40 Do Bottom 6x4x·44 T.Bar		Plate 13" x ·32 Angles Top 3x3x·40 Do Bottom 6x4x·44 T.Bar
	Bearing Surface			r/r	6" T Bar	r/r		r/r 6" T Bar
FORE AND AFTERS	Number			none				
	Spacing							
	Unsupported Lengths							
	Scantling* and Sketch							
	Bearing Surface							
HATCH COVERS	Material			White Pine		White Pine	Steel Plate	White Pine
	Thickness			2¾		2¾		3"
	How fitted			Fore & aft		Fore & aft		Fore & aft
	Bearing Surface			3"		3"		3"
Spacing of Cleats				24"		24"		24"
Number of Tarpaulins				Two		Two		Two

Are wood fore and afters steel shod at all bearing surfaces? ✓

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 fiddley, funnel and ventilator coamings~~ The existing webs have replaced by Webs of scantlings as above. The ends fitted into pressed steel supports. The fore & afters have been dispensed with. The hatch covers have all been renewed & fitted in a fore & aft position

Lewis Corporation

Rpt. C.11.

Index. No. _____
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Lloyd's Register of Shipping.

SURVEYS FOR FREEBOARD.

Computation of Freeboard for Steamer, Sailing Ship, Tanker

having _____

(Type of Superstructures.)

Ship's Name	Nationality and Port of Registry	Official Number	Gross Tonnage	Date of Build

Moulded Dimensions: Length _____ Breadth _____ Depth _____

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

Coefficient of fineness for use with Tables _____

Port of Survey _____

Date of Survey _____

Name of Surveyor _____

Particulars of Classification _____

Depth for Freeboard (D)

Moulded depth ... ...

Stringer plate ... ...

Sheathing on exposed deck

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

Depth for Freeboard (D) = _____

Depth correction

(a) Where D is greater than Table depth
(D—Table depth) R =

(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)

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

Ship's Round of Beam =

Difference

Restricted to

Correction = $\frac{\text{Diff}^{e}}{4} \times \left(1-\frac{S_1}{L}\right)$ =

DEDUCTION FOR SUPERSTRUCTURES.

	Mean Covered Length (S)	Equivalent Enclosed Length (S_1)	Height	Height Correction	Effective Length (E)
Poop enclosed					
„ overhang					
R.Q.D. enclosed ...					
„ overhang ...					
Bridge enclosed... ...					
„ overhang aft ...					
„ overhang forward					
F'cle enclosed					
„ overhang					
Trunk aft					
„ forward					
Tonnage opening aft ...					
„ „ forward					
Total					

Standard Height of Superstructure _____

„ „ R.Q.D. _____

Deduction for complete superstructure _____

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

„ „ $\frac{S_1}{L}$ =

„ „ $\frac{E}{L}$ =

Percentage from Table, Line A.
(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 =

Gowrie

...iculars of Scuppers and Sanitary Discharge Pipes :— On Fore Well Deck :- Port Side W.C. soil pipe 4" dia fitted with C.I. automatic storm valve ... ships side & V trap at inner end; 3 each side 3" bore steel pipes not fitted with storm valves. One each side draining [illegible] 2" diameter not fitted with storm valves: In Bridge Space Star side W.C. soil pipe 4" diameter fitted with Brass automatic storm valve & V trap. Port side pantry basin 2" diameter with storm valve. On R.Q.D. Three each side [illegible] 6"x4" scuppers: One each side draining [illegible] 2" diameter, not fitted with storm valves. Star Side Engineers W.C. Soil pipe 4" diameter fitted with automatic storm valve & V trap

...iculars of Side Scuttles :—

No side scuttles are fitted below freeboard deck

Scuttles in bridge front 12" & bridge sides 9" fitted with hinged iron deadlights

...iculars of Guard Rails :—

On Forecastle 3'6" high with three rods. Stanchions spaced 5'2" apart

On Fwd Well deck steel plate 4'6" high with B.A. rail strongly constructed, with stanchions 5'2" apart

On Bridge Deck steel plate 3'6" high with B.A. Rail strongly constructed, & supported at each end

On R.Q.D. Steel plate 3'8" high with B.A. Rail strongly constructed, Stanchions 6'6" apart

...iculars of Gangways, Lifelines, etc. :—

Hinged wood gangway 21" broad leading from bridge to forecastle 7' high from iron deck, supported midway between bridge & forecastle by strong vertical & diagonal stanchions and having guard rails on one side 3'6" high fitted with a chain at top. Stanchions spaced 6'0" apart.

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~~ RQD ...	83.5'	3'8"	36 x 28" / 11"x19"	2 / 2	16 3/4 / ~~2.9~~ □'	16.7 / ~~8.0~~ □'
Forward Well	58.25'	4'6"	33 x 26 1/2 / 17"x19"	1 / 3	12 1/4 / ~~6.72~~ □'	12.~~25~~ 3 □'

State position of each freeing port (F. and A. position and height above deck edge)
After Well :— ~~From Bridge aft Bhd~~ 2'2" – 33'0". Height of sill 10"
Forward Well :— ~~From Bridge front~~ 1'2" – 9'3" – 25'6" height above iron deck 9"

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

Additional area where sheer is less than standard.

Particulars of Superstructures, Trunks, Casings, Deckhouses.

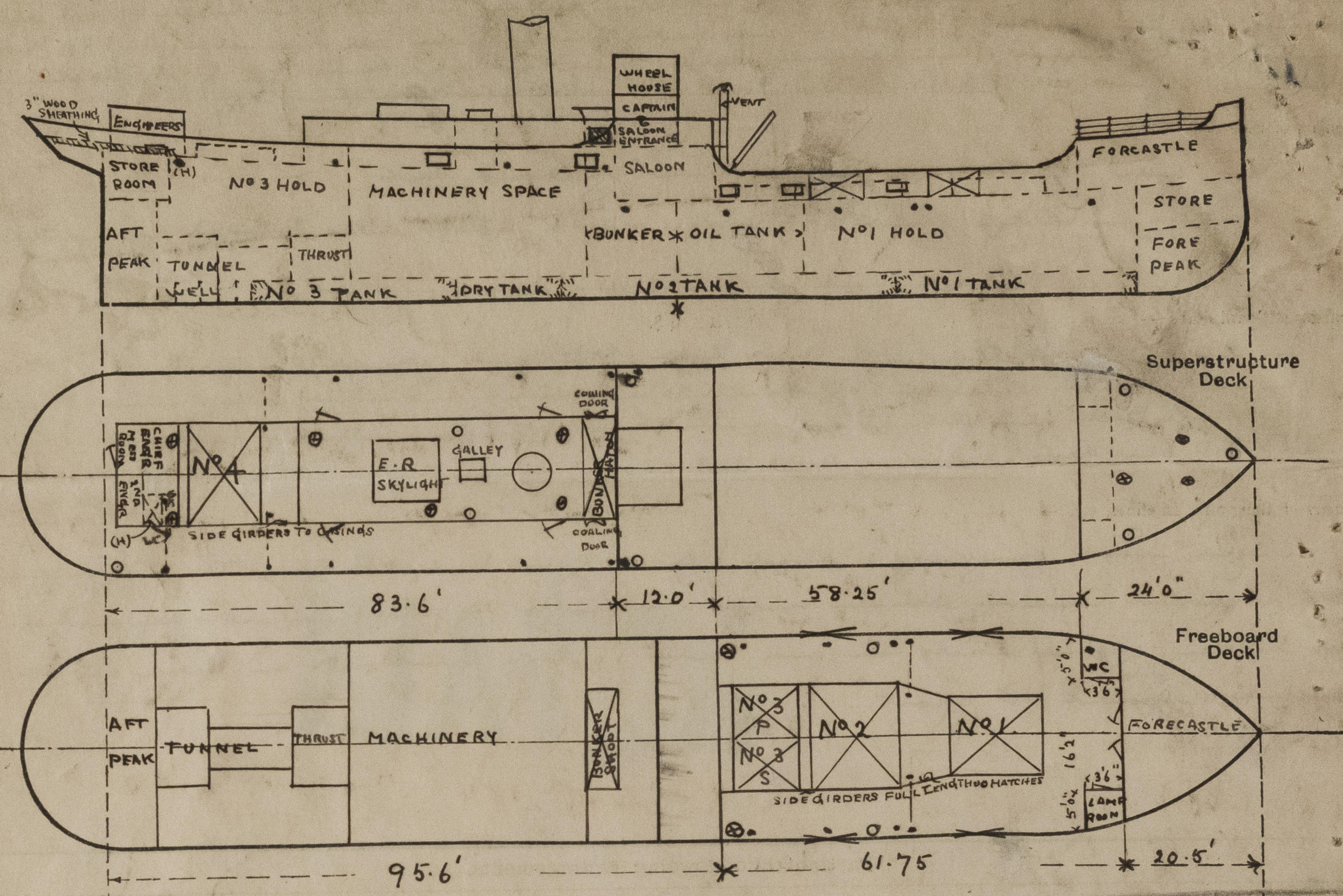
	Coaming	Plating	Stiffeners	Spacing	End Attachments of Stiffeners	Size of Openings	Height of Sills	Height of Casings
~~Poop Bulkhead~~ ...								
Raised Quarter Deck Bulkhead ...	Connected to	after end	of bridge			none	✓	3'6"
Bridge, After Bulkhead ...	.37	.37	6½x3x.45	5'3"	17"x10"	none	✓	7'0"
Bridge, Forward Bulkhead ...	18"x.40	.37	{4½x3x.45 ANGLE / 3 x3 x.37 REVERSE	30"	13"x13"x.40 Top & Bottom	12" Port Lights	✓	7'0"
Forecastle Bulkhead ...	21"x.37	.28	3x2½x.28	23"	none	4'3"x1'10"	21"	6'9"
~~Trunk, Aft~~ ...								
~~Trunk, Forward~~ ...								
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	30"x.43"	.37"	3x3x.43	28"	9"x10"x.43"	3'10"x2'0"	21"	6'9"
~~Exposed Machinery Casings on Superstructure Decks~~ ...								
~~Machinery Casings within Superstructures not fitted with Class 1 Closing Appliances~~ ...								
Deckhouses on ~~Flush~~ RQD Deck Ships (ENGINEERS ACCOMMODATION) ...	.30	.30	3"x3"x.40"	30"	12x12x.40	3'10"x2'0"	21"	6'9"

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

~~Poop Bulkhead~~ ...	✓
~~Raised Quarter Deck Bulkhead~~ ...	} No openings
~~Bridge, After Bulkhead~~ ...	✓
~~Bridge, Forward Bulkhead~~ ...	✓ No openings
Forecastle Bulkhead ...	Teak wood doors to crews quarters 4'3"x1'10"
Exposed Machinery Casings on Freeboard or Raised Quarter Decks ...	Steel plate doors operated from both sides to galley & E.R. 3'10"x2'0" sills 21" heavy moulded framework
~~Exposed Machinery Casings on Superstructure Decks~~ ...	
~~Machinery Casings within Superstructures not fitted with Class 1 Closing Appliances~~ ...	
Deckhouses on ~~Flush~~ R.Q.D Deck Ships (ENGINEERS ACCOMMODATION) ...	Teak wood doors to Engineers quarters 3'10"x2'0" with 21" sills

Gowrie

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 :—



Ventilators shewn ⊗
Air pipes " ○
Scuppers " •
Gangway doors " ✕
COALING DOORS. " ▨

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

Yell

Equiv B.H. $= 20.5 + \frac{3.5 \times 10}{26.16}$

$= 20.5 + 1.34$

$= 21.84$

overhang 24
less 21.84
2.16

Vessel surveyed afloat & examination confined to details of measurement
A number of hatch shifting beams, & sockets also fore & after require
to be placed in good order

Builder's name and yard number Cochrane & Sons Selby

Names of sister ships —

Owners Dundee Perth & London S.S. Co Ld

Fee £ 6 : 16 : 0 Received by me