

No. 527

Bk IV. p. 184

15/287

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 524 No. in Register Book 1046

S.S. "Annan"

Makers of Engines Dunsmuir & Jackson Ltd

Works No. 313

Makers of Main Boilers Dunsmuir & Jackson Ltd

Works No. 313

Makers of Donkey Boiler Dunsmuir & Jackson Ltd

Works No. 313

MACHINERY.



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002485-002489-0081

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 524 No. in Register Book 1046

Received at Head Office

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the *S/S 'Annan'*

Port of Registry

Glasgow

Registered Owners

Wm Sloan & Co

Surveyor's District

Glasgow

Date of Completion of Engines

23rd March 1907

" " " " Main Boilers

do

" " " " Donkey "

do

*Reconditioned &
altered, 1932.*

Trial Run at

Skelmorlie

Date

23rd Mar 1907

First Visit

29th May 1906

Last Visit

2nd Apr 1907

Total Number of Visits

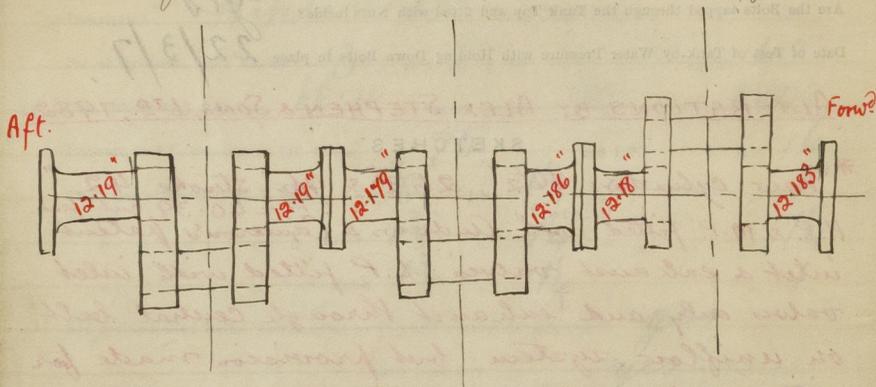
44

(1932 trial figures on p. 39.)

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SKETCHES.

Lengths of crank shaft interchangeable



Skimmed Apr. 1932 - 6 diameters shown in red.
Eccentrics reset on shaft, & straps adjusted.

SHAFTING.

Are Crank Shafts Built? *yes* No. of Lengths in each *3* ^{interchangeable} Angle of Cranks *120°*
 Diar. of Crank Shafts by Rule *11.21* Actual *12 1/4"* Diar. in Way of Webs *12 1/2"*
 Makers of " *J Purden & Sons* Material *Iron*
 Diar. of Crank Pins *12 1/4"* Diar. in Way of Web *12 1/4"*
 Makers of " *Dunsmuir & Jackson Ld* Material *Iron*
 Width across Crank Webs at Centre of Shaft *24"* Thickness *8"*
 " " " " Crank Pins *24"* *8"*
 " " " " Narrowest part *24"* *8"*
 Makers of Crank Webs *Dunsmuir & Jackson Ld* Material *Iron*
 Diar. or Breadth of Keys in Crank Webs *2* Length *5 1/2*
 " of Dowel Pins in Crank Pins *1 7/8"* Length *5 1/2* Screwed or Plain *plain*
 No. of Bolts in each Coupling *6* Diar. at Mid Length *3 3/2* Diar. of Pitch Circle *19*
 Material of Coupling Bolts *Steel*
 Crank Shafts Finished by *Dunsmuir & Jackson Ld*
 Greatest Distance from edge of Main Bearing to Crank Web *5 1/6"*
 Description of Thrust Blocks *Horse shoe type*
 Number " " Rings *5*

Diar. of Thrust Shafts by Rule *11.21* Actual (at bot. of Collars) *12 1/4"* Over Collars *20"*
 " " at Forward Coupling *12 1/4"* After Coupling *12 1/4"*
 No. of Thrust Collars *5* Thickness *2"* Distance apart *3 3/4"*
 Thrust Shafts Forged by *Genastown Forge Co* Material *Steel*
 " Finished by *Dunsmuir & Jackson Ld*

Diar. of Intermediate Shafting by Rule *10.65* Actual *11 5/8"*
 No. of Lengths, each Engine *4* No. of Tunnel Bearings *4*
 Diar. of Bearings *11 3/4"* Length *18"* Distance apart *10' 9"*

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No. of Bolts, each Coupling 6
 Intermediate Shafts Forged by Dennytown Forge Co. Material Iron
 Finished by Dunsinuir & Jackson Ltd.

Diar. of Propeller Shafts by Rule 11.59" Actual 12³/₄" At Couplings 12⁷/₈"

Are Propeller Shafts fitted with Continuous Brass Liners? yes

Diar. over Liners 14'4" Length of After Bearings 4'-6"

Of what Material are the After Bearings composed?ignum Vitae

Distance from After Bearing in Stern Tube to nearest Tunnel Bearing 13'-6"

Are the After Bearings lubricated with Oil or Sea Water? Sea water

What means are adopted to prevent Sea Water entering the Stern Tubes? none

Propeller Shafts Forged by Dennytown Forge Co. Material Iron

Finished by Dunsinuir & Jackson Ltd.

No. of Propellers one Diar. 13'-0" Pitch 17'-6"

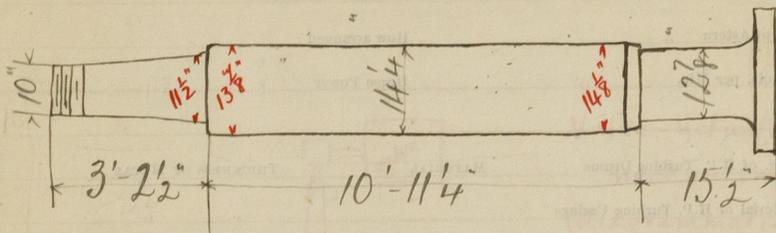
Blades, each Propeller 4 Fitted or Solid fitted

Material of Blades Cast Steel Boss cast Iron

Surface, each Propeller 64 sq ft Diar. of Propeller Rule Diar. of Crank Shaft = 13.9

Coefficient of Displacement of Vessel at $\frac{1}{4}$ Moulded Depth .65

One solid 4 bladed bronze propeller 13'-0" dia.
 15'-3" pitch (about 3 $\frac{1}{2}$ tons) made by Bull's
 Metal + Melloid Coy. Ltd. of Yoker, 3/32.
 (Report dated 14th March, 1932.)
 Surface = 54.75 sq ft.



Skimmed liner & turned down cone, Apr. 1932 - to
 diameters shown in red.



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TURBINE ENGINES.

Type

None

No. of H.P. Turbines

No. of L.P. Turbines

No. of Astern

How arranged

Revs. per Min.

Horse Power

Diar. of H.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of H.P. Turbine Casings

Lengths of Blades in H.P. Turbines

No. of Rows of Blades of each Length

Pitch of

Diar. of L.P. Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of L.P. Turbine Casings

Lengths of Blades in L.P. Turbines

No. of Rows of Blades of each Length

Pitch of

Diar. of Astern Turbine Drums

MATERIAL

THICKNESS OF METAL

Material of Astern Turbine Casings

Lengths of Blades in Astern Turbines

No. of Rows of Blades of each Length

Pitch of

Diar. of Turbine Spindles

Length of Bearing

No. of Thrust Collars on each Spindle

Thickness

Distance apart

Diar. of Spindles at Bottom of Collars

Diar. over Collars

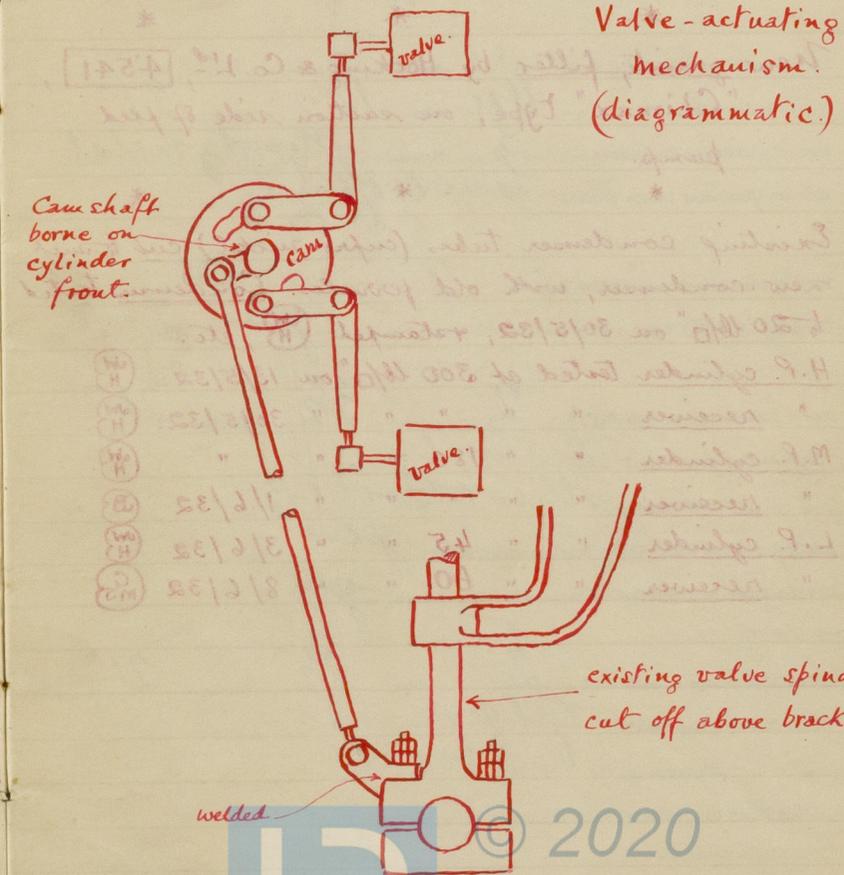
Spindles Forged by

Material

Finished by

SKETCHES.

*How quantity of water used by turbine depends on pressure of water (60 ft) by turbine & Cameron Co. Valve. Steel tubes 2 1/2" dia. & 1480 lbs. (100 lbs) **



Valve-actuating mechanism. (diagrammatic.)

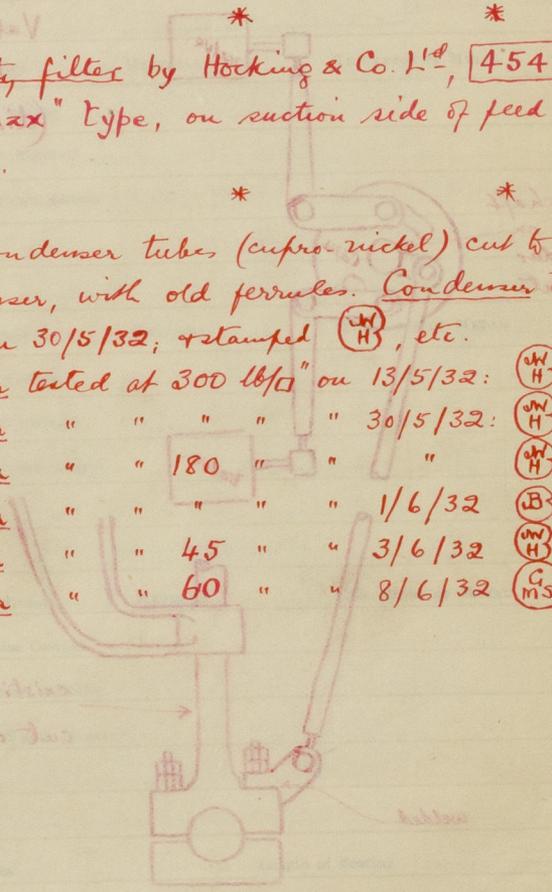
SKETCHES.

~~New gravity filter made by A. Stephen & Son Ltd.~~
 New exhaust surface feed water heater (60 in.)
 by Andrews & Cameron Ltd. [4316]
 Shell tested to 50 lb/sq" & tubes to 480 lb/sq" (29/3/32)

* * *
 New gravity filter by Hocking & Co. Ltd., [4541],
 "Climax" type, on suction side of feed
 pump.

* * *
 Existing condenser tubes (cupro-nickel) cut to suit
 new condenser, with old ferrules. Condenser tested
 to 20 lb/sq" on 30/5/32; stamped (WH), etc.

H.P. cylinder	tested at 300 lb/sq"	on 13/5/32:	(WH)
" receiver	" " " "	" 30/5/32:	(WH)
M.P. cylinder	" " 180 "	" "	(WH)
" receiver	" " " "	" 1/6/32	(B)
L.P. cylinder	" " 45 "	" 3/6/32	(WH)
" receiver	" " 60 "	" 8/6/32	(GMS)



SKETCHES.



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PUMPS, ETC

No. of Air Pumps *Edwards* Diar. *20"* Stroke *21"*
 Type of " "
 Diar. of Air Pump Rod *3"* Material *munty metal*
 How are Air Pumps Worked? *Lever off MP*

No. of Centrifugal Circulating Pumps *One* Maker *Len*
 " Reciprocating " " Diar. *12 1/2"* Stroke *21"*
 Diar. of Circulating Pump Rods *3"* Material *munty metal*
 How are Circulating Pumps Worked? *Lever off LP*

Diar. of Circulating Pump Suction from Sea *7"*
 Has each Circulating Pump a Bilge Suction with Non-return Valve? *yes* Diar. *5"*

No. of Feed Pumps on each Engine *2* Diar. *3 1/2"* Stroke *21"*
 Where do they pump from? *Hotwell*
 " " discharge to? *Filler & Boilers*
 Are Spring-loaded Relief Valves fitted to each Pump? *yes*
 Can one Pump be overhauled while the others are at work? *yes*

No. of Bilge Pumps on each Engine *2* Diar. *3 1/2"* Stroke *21"*
 Where do they pump from? *Bilges*
 " " discharge to? *Overboard*
 Can one Pump be overhauled while the others are at work? *yes*

No. of Bilge Injections connected to Condensers *None* Diar.
 Are all Bilge Suctions fitted with Roses? *yes*
 Are the Valves, Cocks, and Pipes so arranged as to prevent unintentional connection between Sea and Bilges? *yes*

Are all Sea Connections made with Valves or Cocks fitted direct to the Hull Plating? *yes*

Are they placed so as to be easily seen and accessible? *yes*

Are the Discharge Chests placed above the Deep Load Line? *No*

Are they fitted direct to the Hull Plating and easily accessible? *yes*

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges on the outside? *yes*

One independent centrifugal circulating pump by Drysdale & Co. Ltd. ("Thermal" type) 7" bore

No. 24278



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Main BOILERS.

Boilers made by *Dunsmuir & Jackson Ltd*
 " at *Goan Engine Works*
 Works No. *313*
 Date when Plan approved *29th May 1906*
 Boiler Plates, Iron or Steel *Steel*
 Makers of Shell Plates *Glasgow Iron & Steel Co Ltd*
 " Internal Plates *do.*
 " Furnaces *Deighton Patent Furnace Ltd*
 " Stay Bars *David Colvill & Sons Ltd*
 " Rivets *The Rivet Bolt & Nut Co Ltd*
 Material tested by (B.C., B.T., etc.) *BC & BT*
 No. of Boilers *Two*
 Single or Double-ended *single end*
 No. of Furnaces, each Boiler *3*
 Type of Furnaces *Deighton*
 Approved Working Pressure *165 lbs*
 Hydraulic Test Pressure *330 "*
 Date of Hydraulic Test *12th Feb 1907*
 " when Safety Valves set *1st March 1907*
 Pressure on Valves *167 lbs*
 Date of Steam Accumulation Test *23rd March 1907*
 Max. Pressure under Accumulation Test *180 lbs.*
 System of Draught *Natural.*
 Can Boilers be worked separately? *yes.*
 Greatest inside Diam. of Boilers *14'-3"*
 " " Length " *11'-6"*
 Square Feet of Heating Surface, each Boiler *2252 $\frac{1}{2}$*
 " Grate " " *65 $\frac{1}{2}$*

Donkey Boiler
Dunsmuir & Jackson Ltd MAIN BOILERS.
Goan *Alex. Stephen & Sons Ltd.*
313 *Lint house.*
11th June 1906 *J. 290*
Steel *26/1/32.*
Steel Co. of Scotland Ltd *Steel.*
do *Steel Co. of Scotland Ltd*
Deighton Patent Furnace Ltd *Brownside Blk. Works Co. Ltd.*
David Colvill & Sons Ltd *Steel Coy. of Scotland.*
The Rivet Bolt & Nut Co Ltd
BC & BT
one
single end
one
Deighton
80 lbs
160 "
7th Feb 1907
8th March 1907
80 lbs
None *31/8/32.*
206 lb/0"
Natural.
8'-0"
8'-0"
439 $\frac{1}{2}$
21.5 $\frac{1}{2}$

B.C. TEST.
 5477
 350 L.B.
 W.P. 200 L.B.
 R.L.C.
 28/4/32.

Two (2)
 Single.
 2
 Deighton
 200 lb/0"
 350 "
 28/4/32.
 31/8/32.
 206 lb/0"

fan 130/9078 engine 200/1132
 Howden's F.D., c.a.
 Yes.
 12'-6"
 11'-6"
 1518
 35

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 Air pre-heater in uptake
 Foundation

No. of Safety Valves, each Boiler

Diar. " " "

Area " " "

Are the Valves fitted with Easing Gear?

No. of Pressure Gauges, each Boiler

" Water " "

" Test Cocks, "

" Salinometer Cocks, "

Are Water Gauge Pillars attached by Pipes to Steam and Water Spaces?

Are these Pipes connected to Boilers by Cocks or Valves?

Are Blow-off Cocks or Valves fitted on Boiler Shells?

No. of Strakes of Shell Plating in each Boiler

" Plates in each Strake

Thickness of Shell Plates by Rule

" " Approved

" " in Boilers

Are the Rivet Holes Punched or Drilled?

Are Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

" inside "

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

Diar. of Rivet Holes

Pitch " "

Width of Overlap

Percentage of Strength in Longitudinal Seams

Main
Two

3"

14.2 sq"

yes

one

one

3

one

yes

locks

Valves

2

2

17.33/76

1/4"

1/4"

1/4"

Drilled

Steel

Butt

yes

1"

1"

Machine

Treble

1/4"

8'8"

18'8" butt strap

84.6% Plate 89.9% Rivet

Donkey

Two

2 1/2"

9.8 sq"

yes

one

one

3

one

yes

locks

Valves

one

2

6.82/76

1/2"

1/2"

Drilled

Steel

Lap

✓

✓

Machine

Double

7/8"

27'8"

4'3/16"

69.6% Plate 71% Rivet

each Superheater, one single

1 1/2"

Superheater safety valves set 31/8/32 at 204 lb/sq"

fitted with easing gear.

Area 1.467 sq"

17 each Boiler

One pair

2 1/8"

4.093 sq"

Yes

One

3

one

yes

Cocks

{ S.D., N.R. Valves on bottom back-end plates

One

2

1 1/4"

1 5/8"

Drilled

Steel

Butt

Yes

Approved 7/8" Made 7/8" f

1" " " 1" f

Machine

Treble

1 3/16"

8 1/4"

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Main

Thickness of Doublings in Wide Spaces between Fireboxes *None*

Pitch of Stays at " " " " *13 1/2" x 84"*

Eff. Diar. of Stays by Rule *1.53*

" " " " Approved *1.71*

" " " " in Boilers *1.71*

Material " *Steel*

Are Stays fitted with Nuts outside? *yes*

Thickness of Back End Plates at Bottom by Rule *12.8*
13
16

" " " " " Approved *16*

" " " " " in Boilers *13*
16

Pitch of Stays at Wide Spaces between Fireboxes *20 1/8" x 10"* 

Thickness of Doublings in " " " *none*

Thickness of Front End Plates at Bottom by Rule *11.9*
16

" " " " " Approved *13*
16

" " " " " in Boilers *13*
16

No. of Long. Stays in Spaces between Furnaces *3*

Eff. Diar. of Stays by Rule *2.06*

" " " " Approved *2.1*

" " " " in Boilers *2.1*

Material of " *Steel*

Thickness of Front Tube Plates by Rule *15.9*
16

" " " " Approved *1"*

" " " " in Boilers *1"*

Pitch of Stay Tubes at Spaces between Stacks of Tubes *14 1/2" x 9 1/4"*

Thickness of Doublings in " " " *none*

" Stay Tubes at " " " *7/16" & 3/8"*

Donkey.

✓ *one firebox* *Below tubes, 5/8"*

✓ ~~Stay tubes~~ *1'-2 1/4" x 8"*

✓

✓ *2"*

✓ *"*

✓ *Steel.*

✓ *yes.*

9.3
16

5
8

58"

✓ *Chamber bottom 1'-10 3/4" radius inside.*

✓ *At bottom only, 5/8"*

10.5
16

10.5
16

✓ *One 1 3/4" long stay at each side* *29"*
32" *(One above*
manhole.)

✓ *1.09* *2 7/8"*

✓ *1.59* *"*

✓ *1.59* *Steel.*

✓ *Iron*

9.6
16

10.5
16

10.5
16

✓ *(One 2 1/4" steel breast stay each side.)* *29"*
32"
15"
16"

✓ *1'-2 1/4" x 8"*

✓ *none.*

✓ *3/8"*



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Main

Are Stay Tubes fitted with Nuts at Front End?

No

Thickness of Back Tube Plates by Rule

13.2/16

Approved

13.5/16

in Boilers

13.5/16

Pitch of Stay Tubes in Back Tube Plates

14 1/4" x 9 1/4"

Plain

44" x 4 5/8"

Thickness of Stay Tubes

5/16"

Plain

No 8 W.G.

External Diar. of Tubes

3 1/2"

Material

Iron

Thickness of Furnace Plates by Rule

8.12/16

Approved

8.5/16

in Boilers

8.5/16

Smallest outside Diar. of Furnaces

43 1/16"

Length between Tube Plates

7' 6"

Width of Combustion Chambers (Front to Back)

3'-0"

Thickness of Tops, by Rule

9.5/16

Approved

9.5/16

in Boilers

9.5/16

Pitch of Screwed Stays in C.C. Tops

8 3/4" x 8 1/4"

Eff. Diar. by Rule

1.37"

Approved

1.5"

in Boilers

1.5"

Material

Steel

Thickness of Combustion Chamber Sides by Rule

9.5/16

Donkey

No

Yes

8.6/16"

5/8"

5/8"

12 3/4" x 8 1/4"

4'8" x 4'8"

5/16"

9 W.G.

3"

Iron

4.96/16"

7/16"

7/16"

42 7/8"

5'-6"

20 7/8"

7.45/16"

7.5/16"

7.5/16"

9 1/4" x 9 1/4"

1.15"

1.25"

1.25"

Iron

6.83/16"

25 3/32"

13 1/16"

1'-0" x 8"

4" x 4"

3/8" wide space marginal; 5/16" others.

9 W.G.

2 3/4"

Lapwelded iron.

19 3/32"

3'-7 3/8"

7'-8"

2'-9 1/16" inside at top.

21 3/32"

1/16"

3 @ 8" x 9" between girders

© 2020 1 3/4"

Steel

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Thickness of Combustion Chamber Sides Approved

Mam
9.5
16
9.5
16

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

8 3/4 x 8 1/4

Eff. Diar. " " by Rule

1.37

" " " Approved

1.5

" " " in Boilers

1.5

Material " "

Steel

Thickness of Combustion Chamber Backs by Rule

9.5
16
9.5
16

" " " Approved

" " " in Boilers

Pitch of Screwed Stays in C.C. Backs

8 3/4 x 8 1/4

Eff. Diar. " " by Rule

1.37

" " " Approved

1.5

" " " in Boilers

1.5

Material " "

Steel

Are all Screwed Stays fitted with Nuts inside C.C.

yes

Thickness of Combustion Chamber Bottoms

13/16

No. of Girders over each Wing Chamber

5

" " " Centre "

4

Depth and Thickness of Girders

8 1/2 x 7 8

Material of Girders

Iron

No. of Stays in each

3

No. of Stay Tubes, each Boiler

71

" " Plain " " "

194

Size of lower Manholes

15" x 11"

Donkey

7.5
16
7.5
16

8 3/4 x 9 1/4

1.15

1.25

1.25

Iron

7.45
16

7.5
16

7.5
16

9 1/4 x 9 1/4

1.15

1.25

1.25

Iron

yes
7.5
16

✓

7
4 1/2 x 3 1/4

Iron

one

18

60

2 @ 8" x 5"

VERTICAL DONKEY BOILERS

21"
32"
16"

8 1/2" x 8 1/2"

1 3/4"

Steel

21"
32"

16" (full)

9" x 8"

1 3/4"

Steel

Yes.
3/4"

5

9" x 3/4" (actually 25/32")

Steel plates.

3

74

154

16" x 12"



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VERTICAL DONKEY BOILERS.

If the Donkey Boilers are Vertical the following particulars should be stated in addition to those on previous Pages applicable to such Boilers:—

Type of Boilers

None.

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished?

Internal Radius of Dished Ends

Thickness of Plates

Description of Seams in Boiler Crowns

Diar. of Rivet Holes

Pitch

Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished?

External Radius of Dished Crowns

Thickness of Plates

No. of Crown Stays

Effective Diar.

Material

External Diar. of Firebox at Top

Bottom

Thickness of Plates

No. of Water Tubes

Int. Diar.

" "

Material of Water Tubes

No. of Screwed Stays in Firebox Sides

Eff. Diar.

Material

Are they fitted with Nuts inside?

Outside?

SUPERHEATERS.

Description of Superheaters

None.

Where situated

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

No. of Safety Valves on Superheaters

Diar.

Area

Are " " fitted with Easing Gear?

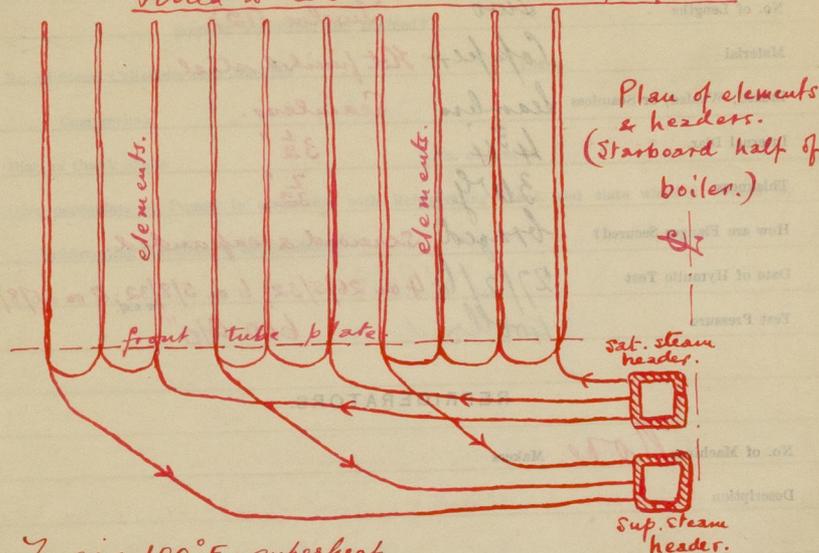
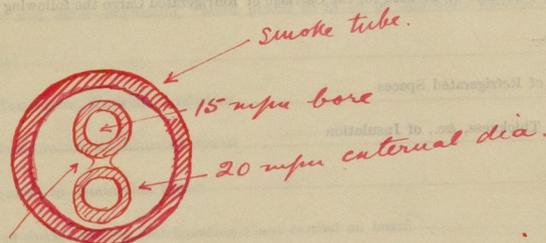
Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

SKETCHES.

- *fitted to new main boilers, 1932.* -*To give 100° F. superheat.*

15 20 mpm Solid-drawn steel elements in smoke tubes, forged steel and headers in smoke-box. Made by The Superheaters Co. Ltd., London.

Both main boilers.

Headers stamped (B.O.T. &) B.C. TEST. 600 LBS/□ (S LB) 15-3-32.

Complete installation tested in place at 400 lb/□, 13/5/32.

MAIN STEAM PIPES.

No. of Lengths	Two	Twelve (12)
Material	Copper	Hot finished steel.
Brazed, Welded, or Seamless	Seamless	Seamless.
Internal Diam.	4 3/4"	3 1/2"
Thickness	3 W.G.	7/32"
How are Flanges Secured?	braced	Screwed & expanded.
Date of Hydraulic Test	27/2/6	4 on 26/5/32; 6 on 5/8/32; 2 on 25/8/32.
Test Pressure	400 lbs	600 W.G.

REFRIGERATORS.

No. of Machines *None* Makers

Description

When any part of the Vessel is to be used for the Carriage of Refrigerated Cargo the following particulars should be stated:—

Total Cubic Capacity of Refrigerated Spaces

Nature, Construction, Thickness, &c., of Insulation



Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?

Are all Bilge Suction, Sounding, and Air Pipes in Insulated Spaces properly insulated?

Are Thermometer Tubes so arranged that Water cannot enter and freeze in the Tubes?

Are Sluice Valves fitted on any of the Bulkheads of Insulated Spaces?

Are these fitted with Brass Non-return Valves?

Are they always accessible?

Are the Bilges and Bilge Rose Boxes always accessible?

Are the Steam Suctions to Bilges fitted with Non-return Valves?

Is the Machine Room effectively separated from Insulated Spaces?

Are they properly Ventilated and Drained?

No. of Steam Cylinders, each Machine Diars.

Compressors, " "

Diam. of Crank Shafts No. of Cranks

Give particulars of Pumps in connection with Refrigerating Plant, and state whether worked by

Refrigerating Machines or independently

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?

Date of Test under Working Conditions

Fall of Temperature in Insulated Spaces

Time required to obtain this Result

Articles of Spare Gear for Refrigerating Plant carried on board



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SKETCHES.

ALTERATIONS & ADDITIONS
-1932.-

(Switch board not altered)

Rewired by Alex. Stephen & Sons Ltd. (9/32.)
(readings as opposite)

Port side light	1	40 watts	.04 amp.	3/029	20	7.8 amp.	22.17 ohms
Starboard do.	1	40	.04	3/029	20	7.8	22.19
Telegraph on B'dge	1	20	.02	"	10	"	"
after Compass	1	"	"	"	"	"	"
<u>New, by same firm.</u>							
Eng. room lantern	1	200	2 amp.	"	1000	"	"
Boiler top, light	1	40	.04 amp.	"	20	"	"
Feeds to no. 3 hold	—	—	—	"	—	"	"
Fore mast lantern	1	300	3 amp.	"	1500	"	"
Extra lbs in accom.	12	40	4.8 "	"	2400	"	"
do. after three d'k	6	"	2.4 "	"	1200	"	"

(Take place of aft. accom. lbs.)

Above principally branch wiring. Any main cable taken down was replaced by same size. Number of lights after alterations about same as before. All circuits overhauled & faults removed. Dynamo moved round & cable renewed.

ELECTRIC LIGHTING.

Installation Fitted by

Telford Grier & Machay Ltd

No. and Description of Dynamos

one, compound

Makers of Dynamos

Mavor Boulson

Capacity

Amperes, at

100 Volts,

300

Revs. per Min.

Current ~~Alternating~~ Continuous

Position of Dynamos

Engine room platform, starboard fore side

Main Switch Board

on shipside above dynamo

No. of Circuits to which Switches are provided on Main Switch Board

8

Particulars of these Circuits:-

No. of Circuit.	Name of Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
1	Forward	9	16	5.4	7/20			600 Mega
2	Fore Hold	14	16	8.4	7/20			
3	Main Hold	10	16	6.	7/20			
4	Aft Hold	6	16	3.6	7/20			
5	Imber room	8	16	4.8	7/20			
6	Saloon	39	16	23.4	7/14			
7	Eng room	24	16	14.4	7/18			
8	Navigation	5	32	6.	7/20			

Total No. of Lights

115

No. of Motors driving Fans, etc.

No. of Heaters

None

Current required for Motors and Heaters

2 amperes

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Positions of Auxiliary Switch Boards, with No. of Switches on each

none

Are Cut-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

yes

On Aux. " " each Auxiliary Circuit

✓

Wherever a Cable is reduced in size

✓

To each Lamp Circuit

yes

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted

yes

Are the Fuses of Standard Sizes?

yes

Are all Switches and Cut-outs constructed of Non-inflammable Material?

yes

Are they placed so as to be always and easily accessible?

*yes*Smallest Single Wire used, No. *20* S.W.G., Largest, No. *14* S.W.G.

How are Conductors in Engine and Boiler Spaces protected?

Armoured & braided

" " Saloons, State Rooms, &c., " ?

Lead covered

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

Armoured & braided

(2) " " passing through Bunkers or Cargo Spaces

Armoured & braided

(3) " " Deck Beams or Bulkheads

*Armoured & braided*Are all Joints in Cables properly soldered and thoroughly insulated so that the efficiency of the Cables is unimpaired? *yes*Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *yes*Are all Hull Connections for Single-Wire Systems made with Screws of large Surface? *—*Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? *yes*Have Tests been made to prove that this condition has been satisfactorily fulfilled? *yes*Has the Insulation Resistance over the whole system been tested? *yes*What does the Resistance amount to? *100,000* Ohms.Is the Installation supplied with a Voltmeter? *yes*" " " an Ampere Meter? *yes*Date of Trial of complete Installation *23/3/17*

Duration of Trial

6 hours

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EVAPORATORS.

No. *None* Type Tons per Da. *40*
 Makers *None*
 Working Pressure *None* Test Pressure *None* Date of Test *None*
 Date of Test of Safety Valves under Steam *None*

FEED WATER HEATERS.

No. *One* Type *2 1/2" pipe (inside boiler)*
 Makers *Hamilton & McMaster*
 Working Pressure *None* Test Pressure *None* Date of Test *None*

DONKEY.

	<i>Ballast</i>	<i>General service</i>
No. of Donkeys	<i>One</i>	<i>One</i>
Type	<i>Vertical</i>	<i>Vertical</i>
Makers	<i>Lamont & Co</i>	<i>Lamont & Co</i>
Single or Duplex	<i>Duplex</i>	<i>Duplex</i>
Double-Acting	<i>Double</i>	<i>Double</i>
Diar. of Steam Cylinders	<i>7"</i>	<i>6"</i>
Pumps	<i>7"</i>	<i>4 1/4"</i>
Stroke of	<i>8"</i>	<i>6"</i>
Where do they pump from?	<i>Tanks Bilges separate bilge Sea.</i>	<i>Sea. Tanks. Bilges Fore peak. Special bilge Hotwell.</i>
Where do they discharge to?	<i>Overboard Condenser Tanks Main Bl. Dry Bl.</i>	<i>Overboard deck Main boilers. Dry bl. Sooty tank</i>
Capacity, Tons per Hour of Ballast Donkey	<i>70</i>	
		Diar. of Pipe required by Rule for

FEED WATER FILTERS.

No. *1* Type *Rankine's high press* Size *3 1/4" pipe*
 Makers *Rankine Cockayne & Co*
 Working Pressure *165 lbs* Test Pressure *432.* Date of Test *31/10/6*

FORCED DRAUGHT FANS.

No. of Fans *None* Dis. *None* Revols. per min. *None*
 How are Fans driven? *None*

PUMPS.

Donkey Boiler
 One *Vertical*
 Makers *Lamont & Co*
 Single or Duplex *Duplex*
 Double-Acting *Double*
 Diar. of Steam Cylinders *4 1/2"*
 Pumps *3"*
 Stroke of *6"*
 Where do they pump from? *Sea*

Donkey boilers

largest Ballast Tank *3"*

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Velocity of Water in Pipe *840 ft per min*

SPARE GEAR.

No. of Top End Bolts	2	No. of Bot. End Bolts	2
" Main Bearing Bolts	2	" Coupling Bolts	6
" Cylr. Cover Studs	12	" Valve Chest Cover Studs	6 6
" Feed Pump Valves	seats 1 set	" Bilge Pump Valves	seats 1 set
" Safety Valve Springs	2	" Fire Bars	1/4 set each boiler.
" Piston Rings		" Junk Ring Bolts Studs	12
" Piston Rods		" Connecting Rods	✓
" Valve Spindles		" Air Pump "	✓
" Air Pump Valves	1 set	" " " Buckets	✓
" Crank Pin Bushes	2	" Crosshead Bushes	2
" Crank Shafts	✓	" Propeller Shafts	✓
" Propellers	6	" " Blades	2
" Boiler Tubes		" Condenser Tubes	24
		" ferrules	60

OTHER ARTICLES OF SPARE GEAR:—

Propeller studs 7
 Escape valve springs 3
 Check valve 1 each size
 Eccentric bolts & nuts 2

GENERAL CONSTRUCTION.

Have all the Requirements under Sections 31 and 32 of the Rules been complied with? *yes yes.*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor ✓

Are the Steam Pumping Arrangements in accordance with the approved Plan? *yes*

If not, state in what respects they differ and when such differences were sanctioned by the Chief

Surveyor ✓

Are the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and trustworthy? *yes yes.*

Is the Workmanship throughout thoroughly satisfactory? *yes*

The above correctly describes the Machinery of the S.S. "Annon" *yes.*

as ascertained by ^{me} from personal examination.

after alterations noted in red
 5/9/32
 J. Wood Harrington.

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 Engineers Surveyors to the British Corporation for the
 Survey and Registry of Shipping.

Fees—

MAIN BOILERS.		£	s.	d.
H.S.	Sq. ft.	18	0	0
G.S.	"			
incl. DONKEY BOILERS.		18	0	0
H.S.	Sq. ft.			
G.S.	"			
		£	18	: 0 : 0
ENGINES.				
L.P.C.	Cub. ft.	17	: 0	: 0
		£		
Testing, &c.				
		£		
Expenses ...				
Total ...		£	35	: 0 : 0

It is submitted that this Report be approved,

Phosco King
Chief Surveyor.

Approved by the Committee,

for the class of M.B.P.*
on the 10. August 1907.

Fees applied for 26-3-07

Fees paid 29-3-07

Abel Blanning
Secretary.

Harbour trial 31/8/32 after floating safety valves.

Sea trial 2/9/32 — two runs over Skelmorlee

measured mile and thereafter cruising in "Lirth".

Press. at boiler 204 lb/sq" Superheat 132° F.

" " H.P. 192½ " " 129° F.

" " M.P. 68 " " 35° F.

" " L.P. 8¼ " —

Vac. 26.9" (say 27")

15.1 lb. of water per I.H.P. per hour for all purposes.

11.8 knots at 81½ revs. per min.

I.H.P. = 940.

All above figures are the mean of the two runs.

* * *

On return trip to & from Bristol, the consumption was 13.2 lb. water per I.H.P./hr. for all purposes with 24" vac. and 80° F. superheat (mixing valve slightly open.)

dtf.
14/9/32.

N.B. The 1907 mean I.H.P. = 1847

Speed 13¼ knots at 90 revs/min.

dtf.
14/9/32.



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22/2/32

21/3/32

10 "

18 "

23 "

30 "

5/4/32 - R.L.G.

12 "

15 "

20 "

28 " - R.L.G.

4/5/32

10 "

12 "

13 "

18 "

24 "

26 "

30 "

31 "

3/6/32

7 " } G.M.S.

8 " }

10 " - J.B.

21 " - G.M.S.

30 "

6/7/32

12 "

29 "

5-8.32 R.L.G.

2 visits J.B.

18/8/32 G.M.S.

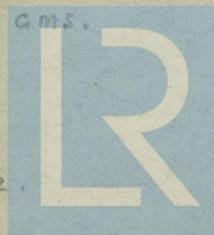
23 "

25 "

30 "

31 "

2/9/32



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