

REPORT ON MACHINERY.

No. 21309

Port of GlasgowReceived at London Office TUES. 24 NOV 1903No. in Survey held at GlasgowDate, first Survey 20th Jan'yLast Survey 11th Nov 1903

Reg. Book.

7th Sup. on theS. S. "Comrie Castle"(Number of Visits 61)

Master

Built at Glasgow

By whom built

Barclay Curle & Co. When built 1903

Engines made at

Glasgow

By whom made

Barclay Curle & Co.when made 1903

Boilers made at

do

By whom made

dowhen made 1903

Registered Horse Power

Owners Donald Currie & Co. (Engs)

Port belonging to

LondonNom. Horse Power as per Section 28 548Is Refrigerating Machinery fitted Ship's use

Is Electric Light fitted

Yes.

ENGINES, &c.—Description of Engines

Twin Screw TripleNo. of Cylinders 6No. of Cranks 6

Dia. of Cylinders

(19-31-52) 2Length of Stroke 48"

Revs. per minute

Dia. of Screw shaft

as per rule 12.05

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

Is the propeller boss

Yes

If the liner is in more than one length are the joints burned

—

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

—

If two

liners are fitted, is the shaft lapped or protected between the liners

—Length of stern bush 50"

Dia. of Tunnel shaft

as per rule 10.7

Dia. of Crank shaft journals

as per rule 11.24Dia. of Crank pin 12"Size of Crank webs 8 1/2"

Dia. of thrust shaft under

collars 12"Dia. of screw 14-9Pitch of screw 18-3No. of blades 3

State whether moveable

Yes

Total surface

53 1/2No. of Feed pumps 2Diameter of ditto 10 1/2"Stroke 21

Can one be overhauled while the other is at work

YesNo. of Bilge pumps 2Diameter of ditto 5 1/2"Stroke 24"

Can one be overhauled while the other is at work

YesNo. of Donkey Engines 3Sizes of Pumps 6 x 4 1/2 x 10, 10 1/2 x 8 x 21

No. and size of Suctions connected to both Bilge and Donkey pumps

2-3 1/2 each

In Engine Room

5-3 1/2"

In Holds, &c.

2-12, 4 x 5 holds2-3 1/2 eachNo. of bilge injections 2sizes 7"

Connected to condenser, or to circulating pump

Yes

Is a separate donkey suction fitted in Engine room & size

Yes-5"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are the sluices on Engine room bulkheads always accessible

—

Are all connections with the sea direct on the skin of the ship

Yes

Are they Valves or Cocks

Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Yes

Are the discharge pipes above or below the deep water line

Below

Are they each fitted with a discharge valve always accessible on the plating of the vessel

Yes

Are the blow off cocks fitted with a spigot and brass covering plate

Yes

What pipes are carried through the bunkers

Bilge & Ballast

How are they protected

Wood covering

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

Yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

Before launch

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Upper deck

BOILERS, &c.—

(Letter for record (3))

Total Heating Surface of Boilers

10420

Is forced draft fitted

No

No. and Description of Boilers

Four Single Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

19.8.02

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60.5

No. and Description of safety valves to

each boiler

Each boiler

2 Cockburn

Area of each valve

5.9

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

abt. 15"

Mean dia. of boilers

15.3

Length

10.6

Material of shell plates

Steel

Thickness

1 1/32"

Range of tensile strength

27 tons

Are they welded or flanged

No

Descrip. of riveting: cir. seams

D.R.L.

long. seams

D.B.S.

Diameter of rivet holes in long. seams

17/16

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

1-9

Percentages of strength of longitudinal joint

rivets 90.5plate 84.8

Working pressure of shell by rules

200 lbs

Size of manhole in shell

16 x 12

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

3 Brighton

Material

Steel

Outside diameter

48 1/4"

Length of plain part

top 19 1/2"

Thickness of plates

crown 19 1/2"

Description of longitudinal joint

weld

No. of strengthening rings

—

Working pressure of furnace by the rules

195

Combustion chamber plates: Material

Steel

Thickness: Sides

9/16

Back

19/32

Top

9/16

Bottom

29/32

Pitch of stays to ditto: Sides

8 x 7 1/2

Back

8 x 7 1/4

Top

8 x 8

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

182 lbs

Material of stays

Steel

Diameter at smallest part

1.45

Area supported by each stay

62

Working pressure by rules

187

End plates in steam space:

—

Material

Steel

Thickness

1 5/32"

Pitch of stays

16 x 15

How are stays secured

drawn

Working pressure by rules

180

Material of stays

Steel

Diameter at smallest part

5.05

Area supported by each stay

240

Working pressure by rules

210

Material of Front plates at bottom

Steel

Thickness

13/16

Material of Lower back plate

Steel

Thickness

7/16

Greatest pitch of stays

15"

Working pressure of plate by rules

—

Diameter of tubes

3"

Pitch of tubes

14 1/4 x 14 1/8

Material of tube plates

Steel

Thickness: Front

27/32

Back

13/16

Mean pitch of stays

8 1/2"

Pitch across wide water spaces

14"

Working pressures by rules

218 lbs

Girders to Chamber tops: Material

Iron

Depth and

—

Thickness of girder at centre

9 x 1 1/16

Length as per rule

29 1/2

Distance apart

8"

Number and pitch of Stays in each

3-8"

Working pressure by rules

220 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

—

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

—

Working pressure of shell by rules

—

Diameter of flue

Material of flue plates

Thickness

—

stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

—

Area of safety valves to superheater

—

Are they fitted with easing gear

—

DONKEY BOILER— No. _____ Description None

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____

Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____

Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____

Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____

Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____

Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— Tail shaft, pair top end braces, for bottom end braces, set of piston springs, set piston-rod packing, 2 top end bolts, 2 bottom end bolts, set coupling bolts, 2 main bearing bolts, etc.

The foregoing is a correct description,
FOR BARCLAY CURLE & CO., LTD Manufacturer.

James Gilchrist Director.

Dates of Survey while building	During progress of work in shops—	1903: Jan. 20. 22. 26 Feb. 2. 3. 4. 7. 10. 11. 12. 14. 17. 25. 26 Mar. 11. 17. 25. 31 Apr. 3. 9. 17. 20. 24. 25 May 1. 4. 7
	During erection on board vessel—	11. 13. 21. 26 June 2. 10. 13. 16. 18. 24. 25. 30 July 6. 10. 14. 15 Aug. 5. 7. 14. 19. 20. 25 Sept. 3. 15. 16. 22. 23. 25 Oct. 1. 6. 7. 14. 22. Nov. 11
Total No. of	s	61

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " None

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible for notation
L M C 11.03 in the Register-Book.

It is submitted that
 this vessel is eligible for
THE RECORD L.M.C. 11.03 ELEC:LIGHT.

ms
4.12.03

ls
4.12.03

The amount of Entry Fee. £ 3 : : When applied for, 23.11.1903
 Special £ 47 : 8 : : 28.11.1903
 Donkey Boiler Fee £ : : : When received, 27.11.1903
 Travelling Expenses (if any) £ : : : 27.11.1903

Committee's Minute Glasgow 23 NOV 1903

Assigned

+ L.M.C. 11.03.
When fee is paid

H Gardner-Smith.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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 Foundation

MACHINERY CERTIFICATE
 WRITTEN 4-12-03