

REPORT ON MACHINERY.

No. 21309

Port of Glasgow

Received at London Office TUES. 24 NOV 1903

No. in Survey held at Glasgow

Date, first Survey 20th Jan'y

Last Survey 11th Nov 1903

Reg. Book.

7th Sup. on the

S.S. "Comrie Castle"

(Number of Visits 61)

Tons } Gross
 } Net

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 do when made 1903

Registered Horse Power

Owners Donald Currie & Co. (Engs) Port belonging to London

Nom. Horse Power as per Section 28 548

Is Refrigerating Machinery fitted Ship's use

Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines

Twin screw Triple No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders (19-31-52) Length of Stroke 48" Revs. per minute

Dia. of Screw shaft as per rule 12.05" Material of screw shaft Steel
as fitted 12.7"

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

At 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 11.24"

Dia. of Crank pin 12"

Size of Crank webs 8 1/2"

Dia. of thrust shaft under

collars 12"

Dia. of screw 14-9"

Pitch of screw 18-3"

No. of blades 3

State whether moveable Yes

Total surface 53 1/2 #

No. of Feed pumps 2

Diameter of ditto 10 1/2"

Stroke 21 In.

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 5 1/2"

Stroke 24"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3

Sizes 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

In Engine Room 5 - 3 1/2"

In Holds, &c. 2" - 1.2, 4 x 5 holds 2 - 3 1/2" each

Deep Tank 2 - 2 3/4"

Tunnel 2 - 2 1/2"

No. of bilge injections 2 sizes 7"

Connected to condenser, or to circulating pump —

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 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 13/32"

Range of tensile strength 27,600

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 90.5

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 —

Thickness of plates

crown 19/32"

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 3/4"

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 1.44"

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 crowded

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 1/16"

Greatest pitch of stays 15"

Working pressure of plate by rules —

Diameter of tubes 3"

Pitch of tubes 4 1/4 x 4 1/8"

Material of tube plates Steel

Thickness: Front 25/32"

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

—

Lloyd's Register Foundation

W97-0037

DONKEY BOILER— No. _____ Description Iron
 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 brasses, pair bottom end brasses, 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. 18. 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 **ELECTRIC LIGHT.**

H.S.
 4.12.03
H.S.
 4.12.03

The amount of Entry Fee. . . £ 3 : : When applied for, 23/11/03
 Special £ 47 : 8 : }
 Donkey Boiler Fee £ : : : When received, 27/11/03
 Travelling Expenses (if any) £ : : :
 Committee's Minute Glasgow 13 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.



Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

MACHINERY CERTIFICATE
 WRITTEN 4-12-03