

## REPORT ON MACHINERY.

Port of Glasgow

No. in Survey held at  
Reg. Book.

on the

Paisley

Date, first Survey

9 Nov. 1901

Last Survey

3 March 1902

Received at London Office

(Number of Visits)

Gross  
Tons  
Net

When built 1902

Master

Built at

By whom built

Russell &amp; Co

Engines made at

Greenock

By whom made

J. G. Sinclair &amp; Co

when made 1902

Boilers made at

Paisley

By whom made

A. F. Craig &amp; Co Ltd

when made 1902

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted

Is Electric Light fitted

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute

Dia. of Screw shaft

as per rule

as fitted

Lgth. of stern bush

Dia. of Tunnel shaft

as per rule

Dia. of Crank shaft journals

as per rule

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

In Holds, &amp;c.

No. of bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room &amp; size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

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

Are the discharge pipes above or below the deep water line

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

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

What pipes are carried through the bunkers

How are they protected

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

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

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

Is the screw shaft tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &amp;c.—

(Letter for record S)

Total Heating Surface of Boilers

4700 sq ft

Is forced draft fitted

No

No. and Description of Boilers

Two, Single Ended

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

17/2/02

Can each boiler be worked separately

Area of fire grate in each boiler

66 1/2 sq ft

No. and Description of safety valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

15-6"

Length

10-10 1/2"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

28/32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

Double Lap long. seams

Double Butt

5 rivets

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9"

Lap of plates or width of butt straps

19 1/2"

Per centages of strength of longitudinal joint

rivets

89.0

plate

85.4

Working pressure of shell by rules

180 lb

Size of manhole in shell

16" x 12"

Size of compensating ring

McNeil

No. and Description of Furnaces in each boiler

3, Fox

Material

Steel

Outside diameter

49 1/2"

Length of plain part

top

27"

Thickness of plates

crown

19/32"

Description of longitudinal joint

Welded

No. of strengthening rings

None

Working pressure of furnace by the rules

190 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

2 1/32"

Back

2 1/32"

Top

23/32 Hmg

Bottom

Pitch of stays to ditto: Sides

9 x 9

Back

9 x 9

Top

9 x 9 Centre

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

183

Material of stays

Steel

Diameter at smallest part

1 7/8"

Area supported by each stay

115 sq in

Working pressure by rules

199

End plates in steam space:

None

Material

Steel

Thickness

1 1/32"

Pitch of stays

2 1/4" x 2 1/2"

How are stays secured

Double Nuts

Working pressure by rules

185

Material of stays

Steel

Diameter at smallest part

7.50"

Area supported by each stay

415 sq in

Working pressure by rules

180

Material of Front plates

at bottom

Steel

with 3/4" doubler

Thickness

3/4"

Greatest pitch of stays

16 1/2"

Working pressure of plate by rules

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2"

Material of tube plate

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

10-1"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

230 lb

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9" x 1 1/2"

Length as per rule

29 1/2"

Distance apart

10 1/2"

Number and pitch of Stays in each

Two, 9"

Working pressure by rules

193 lb

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

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

How stayed

If 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

Is a Report also sent on the Hull of the Ship?

Is a Report also sent on the Hull of the Ship?

Is a Report also sent on the Hull of the Ship?

Is a Report also sent on the Hull of the Ship?

Is a Report also sent on the Hull of the Ship?

A. F. Craig &amp; Co Ltd

Architect &amp; Engineer

Manufacturers

Foundation

W490-0159



**DONKEY BOILER—** No. \_\_\_\_\_ Description \_\_\_\_\_

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 \_\_\_\_\_

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 \_\_\_\_\_

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:—

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1901: Nov. 9, 13, 18, 20, 30, Dec. 6, 9, 11, 16, 23, 30, 1902: Jan. 8.  
During erection on board vessel - - 11, 17, 28, Feb. 3, 10, 13, 17, 26, Mar. 3.  
Total No. of visits 21.

Is the approved plan of main boiler forwarded herewith *yes*  
" " " donkey " " *yes*

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

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

Is the after end of the liner made water tight in the propeller boss \_\_\_\_\_ 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 \_\_\_\_\_

*These boilers have been built under special survey. The materials and workmanship are of good quality, they have been tested by hydraulic pressure to 360 lbs per square inch and were found tight and sound at that pressure.*

*These boilers have been forwarded to Greenock to be fitted on board the S.S. Albuera.*

Certificate (if required) to be sent to

The amount of Entry Fee. . . £ : : When applied for, \_\_\_\_\_  
Special . . . . £ : : 19. . . .  
Donkey Boiler Fee . . . £ : : When received, \_\_\_\_\_  
Travelling Expenses (if any) £ : : 19. . . .

Committee's Minute

Glasgow. 24 MAR 1902

Assigned

*See accompanying G.R.B. report*

*George Murdoch*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2020

Lloyd's Register  
Foundation