

## REPORT ON MACHINERY.

SAT. 2 APR 1898

Port of *Greenock*

Received at London Office

18

Survey held at

*Greenock*

Date, first Survey

*23<sup>rd</sup> May 1896*

Last Survey

*30<sup>th</sup> March*

1898

(Number of Visits *196*)

from main

in the *Screw Steamer "Arabia"*

Thickness

Pitch of

Stays to

D

hell by rule

tubes

Horse Power *2500*Owners *Paninular & Oriental S S Coy*Port belonging to *Greenock*se Power as per Section 28 *1355*Is Electric Light fitted *Yes*Tons { Gross *7902.80*  
Net *4167.30*When built *1897*when made *1897*when made *1897*

ES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

r of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft

as per rule

of Tunnel shaft

as per rule

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

as fitted

of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Donkey Engines

Sizes of Pumps

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

ne Room

In Holds, &amp;c.

Bilge injections

sizes

Connected to condenser, or to circulating pump

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

The bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

connections with the sea direct on the skin of the ship

Are they Valves or Cocks

y 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

y 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

pipes are carried through the bunkers

How are they protected

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

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

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

Is the screw shaft tunnel watertight

fitted with a watertight door

worked from

ERS, &amp;c.—

(Letter for record *S*)

Total Heating Surface of Boilers

Is forced draft fitted *Yes*

nd Description of Boilers

*Three Cylindrical Multitubular*Working Pressure *170 lb*Tested by hydraulic pressure to *340 lb*of test *1.10.97*. Can each boiler be worked separately *Yes*Area of fire grate in each boiler *59 sq ft*

No. and Description of safety valves to

boiler *Two direct spring*Area of each valve *8.94 sq in*Pressure to which they are adjusted *175 lb*

Are they fitted

easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *22 in*Mean diameter of boilers *15.3 in*h *11.6 in*Material of shell plates *Steel*Thickness *1 1/2 in*Description of riveting: circum. seams *Lap double butt*Long. seams *Double butt*eter of rivet holes in long. seams *1 1/2 in*Pitch of rivets *8 3/4 x 4 3/8*Lap of plates or width of butt straps *20 in straps*

percentages of strength of longitudinal joint

rivets *89*Working pressure of shell by rules *170 lb*Size of manhole in shell *16 x 12 in*of compensating ring *29 x 30 x 1 1/2 in*No. and Description of Furnaces in each boiler *Three suspension*Material *Steel*Outside diameter *47 in*

th of plain part

top

Thickness of plates

crown *3 1/2 in*Description of longitudinal joint *welded*No. of strengthening rings *Four*Working pressure of furnace by the rules *200 lb*Combustion chamber plates: Material *Steel*Thickness: Sides *7/16 in*Back *9/16 in*Top *3/4 in*Bottom *1/2 in*h of stays to ditto: Sides *7/16 x 7/16 in*Back *8 x 8 in*Top *9 x 8 in*If stays are fitted with nuts or riveted heads *nut except*

Working pressure by rules

Material of stays *Steel*Diameter at smallest part *1 3/8 in*Area supported by each stay *52 to 78 sq in*Working pressure by rules *187 to 222 lb*

End plates in steam space:

Material *Steel*Thickness *1 in*Pitch of stays *17 1/2 x 17 1/2 in*How are stays secured *double nut*Working pressure by rules *184 lb*Material of stays *Steel*Diameter at smallest part *2 3/4 in*Area supported by each stay *280 sq in*Working pressure by rules *195 lb*Material of Front plates at bottom *Steel*Thickness *1 3/8 in*Material of Lower back plate *Steel*Thickness *1 3/8 in*Greatest pitch of stays *11 1/2 in*Working pressure of plate by rules *172 lb*Diameter of tubes *2 1/2 in*Pitch of tubes *3 3/4 x 3 3/4 in*Material of tube plates *Steel*Thickness: Front *3/4 in*Back *3/4 in*Mean pitch of stays *7 1/2 in*Pitch across wide water spaces *14 in*Working pressures by rules *231 lb*Girders to Chamber tops: Material *Steel*

Depth and

Thickness of girder at centre *9 x 3/4 in*Length as per rule *31 1/2 in*Distance apart *9 x 8 1/2 in*Number and pitch of Stays in each *three 8 in*Working pressure by rules *180 lb*

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

Shipped

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

How stayed

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

Are they fitted with easing gear

Are they fitted with easing gear

Are they fitted with easing gear

Are they fitted with easing gear

Are they fitted with easing gear

GRK 340-0153

# DONKEY BOILER—

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 m

enter the donkey boiler

Diameter of donkey boiler

Length

Material of shell plates

Thickne

Description of riveting long. seams

Diameter of rivet holes

Whether punched or drilled

Pitch of

Lap of plating

Per centage of strength of joint

Rivets

Thickness of shell crown plates

Radius of do.

No. of Stays to

Dia. of stays

Diameter of furnace Top

Bottom

Length of furnace

Thickness of furnace plates

Joint

Thickness of furnace crown plates

Stayed by

Working pressure of shell by r

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.

FOR CAIRD AND COMPANY, LIMITED.

*Macintosh*

SECRETARY

Dates of Survey while building { During progress of work in shops - - }  
 { During erection on board vessel - - }  
 Total No. of visits

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

Certificate (if required) to be sent to

Certificate (if required) to be sent to

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

The amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	:	:	.....18.....
Donkey Boiler Fee .. .. .	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	.....18.....

Committee's Minute

Assigned

*A. B. Heron*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships  
 Greenock District



Lloyd's Register  
 Foundation