

REPORT ON MACHINERY.

Port of Greenock

SAT. 2 APR 1898

Received at London Office

Survey held at Greenock

Date, first Survey 23rd May 1896 Last Survey 30th March 1898

(Number of Visits 196)

on the Screw Steamer "Arabia"

Tons { Gross 7902.80
Net 4167.30

Built at Greenock

By whom built Baird & Co. (Lim^d)

When built 1897.8

Made at Greenock

By whom made Baird & Co. (Lim^d)

when made 1897.8

Made at do

By whom made do do

when made 1897.

Indicated Horse Power 2500

Owners Peninsular & Oriental S.S. Co.

Port belonging to Greenock

Horse Power as per Section 28 1355

Is Electric Light fitted yes

ENGINES, &c.—Description of Engines

No. of Cylinders

No. of Cranks

Diameter of Cylinders

Length of Stroke

Revolutions per minute

Diameter of Screw shaft as per rule

Diameter of Tunnel shaft as fitted

Diameter of Crank shaft journals

Diameter of Crank pin

Size of Crank webs

Diameter of screw

Pitch of screw

No. of blades

State whether moveable

Total surface

Diameter of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

Diameter of 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

Engine Room

In Holds, &c.

Bilge injections

sizes

Connected to condenser, or to circulating pump

Is a separate donkey suction fitted in Engine room & size

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

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

Are the pipes 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

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

Is the screw shaft tunnel watertight

Is the door fitted with a watertight door

worked from

Donkey Boiler

BOILERS, &c.—

(Letter for record)

Total Heating Surface of Boilers 1668 sq ft

Is forced draft fitted no

Description of Boilers One Cylindrical Multitubular

Working Pressure 170 lb

Tested by hydraulic pressure to 340 lb

Can each boiler be worked separately no

Area of fire grate in each boiler 53 sq ft

No. and Description of safety valves to

boiler Two direct spring

Area of each valve 5.94 sq in

Pressure to which they are adjusted 170 lb

Are they fitted

Are easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 26 in

Mean diameter of boilers 14.3 in

Length 10.6 in

Material of shell plates Steel

Thickness 1 3/32 in

Description of riveting: circum. seams Lap double tube long. seams DD straps & double

Diameter of rivet holes in long. seams 1 5/16 in

Pitch of rivets 8 1/2 x 4 1/4

Lap of plates or width of butt straps 19" straps

Percentages of strength of longitudinal joint

rivets 92

Working pressure of shell by rules 182 lb

Size of manhole in shell 16 x 12

Diameter of compensating ring 28 x 1 3/32

No. and Description of Furnaces in each boiler Three Suspension

Material Steel Outside diameter 43 in

Length of plain part

top

Thickness of plates

crown

bottom

Description of longitudinal joint welded

No. of strengthening rings Two bottom

Working pressure of furnace by the rules 190 lb

Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 21/32 Bottom 11/16

Number of stays to ditto: Sides 8 x 7 5/8

Back 8 x 8 Top 8 1/2 x 9

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 170 to 183

Material of stays Steel

Diameter at smallest part 1 1/8 x 1 1/2

Area supported by each stay 52 to 51 1/2 Working pressure by rules 170 to 230

Material Steel

Thickness 15/16

Pitch of stays 16 x 17 x 16 1/2

How are stays secured double nuts

Working pressure by rules 170 lb Material of stays Steel rivet

Diameter at smallest part 1 1/8

Area supported by each stay 280

Working pressure by rules 170 lb

Material of Front plates at bottom Steel

Thickness 13/16

Material of Lower back plate Steel

Thickness 13/16

Greatest pitch of stays 11

Working pressure of plate by rules 188 lb

Diameter of tubes 3 1/2

Pitch of tubes 4 3/4 x 4 3/4

Material of tube plates Steel

Thickness: Front 3/4 Back 1/2

Mean pitch of stays 11 1/2 x 9 1/2

Pitch across wide water spaces 15

Working pressures by rules 201 lb

Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 8 1/2 x 3/4

Length as per rule 31

Distance apart 8 1/2

Number and pitch of Stays in each Two 9

Working pressure by rules 174 1/2 lb

Superheater or Steam chest; how connected to boiler

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

Are they 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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

Are they 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

Working pressure of end plates

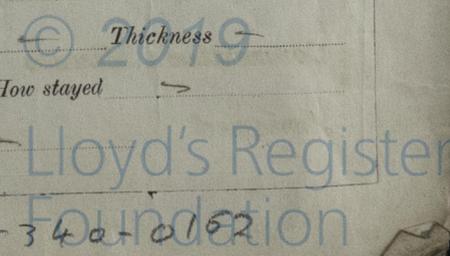
Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



DONKEY BOILER— Description

Made at _____ By whom made _____

Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ When made _____ Where fixed _____

No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ Fire grate area _____ Description of safety valves _____

enter the donkey boiler _____ Diameter of donkey boiler _____ Length _____ If fitted with easing gear _____ Material of shell plates _____ Thickness _____

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 _____

Plates _____ Thickness of shell crown plates _____ Stayed by _____ Thickness of furnace plates _____

Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ 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.

William McIntosh

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 _____
 (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	£	:	:	
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any) £	:	:	:	

TUES. 5 APR 1893

A. B. Heron

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Greenock District



Lloyd's Register
 Foundation