

THUR, AUG 27 1896

Abn No. 5279
Nuc 33525
Lth. 8220

REPORT ON MACHINERY

Port of *abdeen*

Received at London Office

No. in Survey held at *abdeen* Date, first Survey *April 23rd* Last Survey *Augst 3rd 1896*
 Reg. Book. *on the* *Steamer "Guardian"* (Number of Visits *18*)
 Master *Greenlade* Built at *Greenwich* by whom built *Lumley & Ellis* Ton *Gross* *Net*
 Engines made at *abdeen* By whom made *Elphinstone & Co* when made *1896*
 Boilers made at *South Shields* By whom made *J. T. Elphinstone & Co* when made *1896*
 Registered Horse Power *64* Owners *D. W. Bain & Co* Port belonging to *Penzance*
 Nom. Horse Power as per Section 28 *80*

ENGINES, &c.— Description of Engines *Compound* No. of Cylinders *2*
 Diameter of Cylinders *18 1/2" x 40"* Length of Stroke *30"* Revolutions per minute *80* Diameter of Screw shaft as per rule *8 1/8"*
 Diameter of Tunnel shaft as fitted *8 1/8"* Diameter of Crank shaft journals *8 1/8"* Diameter of Crank pin *8 1/8"* Size of Crank webs *9 1/2" x 6 1/8"*
 Diameter of screw *9-0"* Pitch of screw *13-6"* No. of blades *4* State whether moveable *No* Total surface *32 sq ft*
 No. of Feed pumps *One* Diameter of ditto *2 1/2"* Stroke *20"* Can one be overhauled while the other is at work *—*
 No. of Bilge pumps *One* Diameter of ditto *2 1/2"* Stroke *20"* Can one be overhauled while the other is at work *—*
 No. of Donkey Engines *2* Sizes of Pumps *one 4 1/2" stroke* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Two 2"* In Holds, &c. *Two 2" Iron Hold*
 No. of bilge injections *one* sizes *3 1/2"* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 2"*
 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 *None*
 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 *above*
 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 *None to the hold* How are they protected *By wooden casings*
 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? *before landing* Is the screw shaft tunnel watertight *None*
 Is it fitted with a watertight door *—* worked from *—*

BOILERS, &c.— (Letter for record *—*) Total Heating Surface of Boilers *1268 sq ft*
 No. and Description of Boilers *One Ordinary Type* Working Pressure *125* Tested by hydraulic pressure to *—*
 Date of test *—* Can each boiler be worked separately *—* Area of fire grate in each boiler *31 sq ft* No. and Description of safety valves to
 each boiler *2 Spring* Area of each valve *7.06 sq in* Pressure to which they are adjusted *125 lbs* Are they fitted
 with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *5-0"* Mean diameter of boilers
 Length *—* Material of shell plates *—* Thickness *—* Description of riveting: circum. seams *—* long. seams *—*
 Diameter of rivet holes in long. seams *—* Pitch of rivets *—* Lap of plates or width of butt straps *—*
 Per centages of strength of longitudinal joint *—* Working pressure of shell by rules *—* Size of manhole in shell *—*
 Size of compensating ring *—* No. and Description of Furnaces in each boiler *—* Material *—* Outside diameter *—*
 Length of plain part *—* Thickness of plates *—* Description of longitudinal joint *—* No. of strengthening rings *—*
 Working pressure of furnace by the rules *—* Combustion chamber plates: Material *—* Thickness: Sides *—* Back *—* Top *—* Bottom *—*
 Pitch of stays to ditto: Sides *—* Back *—* Top *—* If stays are fitted with nuts or riveted heads *—* Working pressure by rules *—*
 Material of stays *—* Diameter at smallest part *—* Area supported by each stay *—* Working pressure by rules *—* End plates in steam space: *—*
 Material *—* Thickness *—* Pitch of stays *—* How are stays secured *—* Working pressure by rules *—* Material of stays *—*
 Diameter at smallest part *—* Area supported by each stay *—* Working pressure by rules *—* Material of Front plates at bottom *—*
 Thickness *—* Material of Lower back plate *—* Thickness *—* Greatest pitch of stays *—* Working pressure of plate by rules *—*
 Diameter of tubes *—* Pitch of tubes *—* Material of tube plates *—* Thickness: Front *—* Back *—* Mean pitch of stays *—*
 Pitch across wide water spaces *—* Working pressures by rules *—* Girders to Chamber tops: Material *—* Depth and
 thickness of girder at centre *—* Length as per rule *—* Distance apart *—* Number and pitch of Stays in each *—*
 Working pressure by rules *—* 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
 holes *—* 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—

Description

None

When made

Where fixed

Made at

By whom made

No. of Certificate

Fire grate area

Description of safety valves

Working pressure

tested by hydraulic pressure to

Pressure to which they are adjusted

If fitted with easing gear

If steam from main boilers can

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

Diameter of donkey boiler

Length

Material of shell plates

Thickness

Description of riveting long. seams

Diameter 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:—

as per rule only

The foregoing is a correct description,

Clyde Mitchell & Co. Manufacturer. of Engines

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

1896. - April 23. 29. - May 9. 18. 21. 27. - June 8. 10. 18. 25. -
 July 6. 11. 16. 22. 25. 29. - August 1. 3
 18

This vessel's engines have been built - under special survey. - The materials & workmanship are good. - The boiler has been built - at Shields & fitted on board here. - On completion the engines were seen running under steam with satisfactory results, at which time rates were adjusted. - This vessel is therefore eligible in my opinion to be classed as regards the machinery with the notation of + LMC. 8. 9. in the Blue Book. -

The Boiler tracing is herewith enclosed. -

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8. 96.

Certificate (if required) to be sent to

The amount of Entry Fee. £

1

0

When applied for,

Aug 25th 1896

Special

9

12

When received,

13. 8. 1896

£4 of this due to him who

Donkey Boiler Fee

5

12

Travelling Expenses (if any) £

4

Committee's Minute FRI. AUG 28 1896

Assigned

Maurice Peterson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
 & Thomas Kilduff



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